

NAVAL AIR TRAINING COMMAND



NAS CORPUS CHRISTI, TEXAS
CIN Q-2D-0174; Q-2D-1174

CNATRAINST 1542.174
23 OCT 2013

CHIEF OF NAVAL AIR TRAINING



ADVANCED NAVAL AVIATOR/NAVAL FLIGHT OFFICER INSTRUCTOR UNDER TRAINING MULTI-SERVICE NAVIGATOR TRAINING SYSTEM CURRICULUM

2013



DEPARTMENT OF THE NAVY
CHIEF OF NAVAL AIR TRAINING
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CNATRAINST 1542.174
N712
23 Oct 13

CNATRA INSTRUCTION 1542.174

Subj: ADVANCED NAVAL AVIATOR/NAVAL FLIGHT OFFICER (NFO)
INSTRUCTOR UNDER TRAINING (IUT) MULTI-SERVICE NFO TRAINING
SYSTEM (MNTS) CURRICULUM

1. Purpose. To publish the curriculum for training Instructor NFOs and Pilots to qualify them for the purpose of instructing Undergraduate Military Flight Officers (UMFOs) in the Advanced Strike Fighter phase of Naval Air Training Command (NATRACOM) flight training.
2. Cancellation. CNATRAINST 1542.123C will be cancelled when the last enrolled IUT completes the curriculum.
3. Action. This instruction is effective on receipt. No changes shall be made without written authorization by the Chief of Naval Air Training (CNATRA).
4. Forms. The CNATRA forms required by this instruction are automated in the Training Integration Management System (TIMS) computer program. Additional CNATRA forms are available on the CNATRA website <https://www.cnatra.navy.mil/pubs/forms.htm>.


C. HOLLINGSWORTH
Chief of Staff

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COURSE DATA

1. Course Title. Advanced Naval Aviator/NFO IUT MNTS Curriculum.
2. Course ID Number (CIN)

T-45 Pilot IUT: Q-2D-0174
T-45 NFO IUT: Q-2D-1174
3. Location. Naval Air Station, Pensacola, FL.
4. Course Status. Active.
5. Course Mission. The Advanced Naval Aviator/NFO IUT MNTS Curriculum is designed to provide NFOs and Instructor Pilots instruction in the techniques and procedures required to administer the approved CNATRA Advanced Strike Fighter NFO training curriculum. Successful completion of applicable curricula qualifies the graduate as an advanced phase NFO instructor. This course will require:
 - a. Flight training to teach the principles and techniques used in air-to-air and air-to-ground training.
 - b. Ground training to supplement and reinforce flight training.
6. Prerequisite Training. Designated Naval Aviator or NFO as required by CNATRA.
7. Security Clearance Required. None.
8. Follow-on Training. As required to maintain currency for instructor or upgrade qualifications if applicable.

9. Course Length. Overall time-to-train calculated in accordance with CNATRAINST 1550.6E. Training days account for factors including weather, personnel and equipment availability, briefing and preparation time, and historical delays. Calendar weeks further account for weekends, holidays, safety stand-downs, and other expected nonworking days.

	<u>Training</u> <u>Days</u>	<u>Calendar</u> <u>Weeks</u>
a. Pilot Contact (Initial Qualification)	40.9	9.1
b. NFO Contact (Initial Qualification)	34.7	7.7
c. Pilot Strike (Advanced Qualification)	19.0	4.2
d. NFO Strike (Advanced Qualification)	26.2	5.8
e. Pilot CAS (Advanced Qualification)	7.8	1.7
f. NFO CAS (Advanced Qualification)	13.8	3.1
g. Pilot BFM (Advanced Qualification)	11.0	2.4
h. Pilot AWI (Advanced Qualification)	21.8	4.8
i. NFO AWI (Advanced Qualification)	30.2	6.7

10. Class Capacity. Variable.

11. Instructor Requirements. As determined by Chief of Naval Operations (CNO) planning factors.

12. Course Curriculum Model Manager. Commander, Training Air Wing SIX (COMTRAWING SIX).

13. Quota Management Authority. Chief of Naval Air Training.

14. Quota Control. Chief of Naval Operations.

15. Course Training Subjects

a. Ground Training

ADMINISTRATION (PILOT AND NFO INITIAL IUT)		
Stage	Symbol	Hours
Administration/Check-In	G0101	4.0
Administration/Checkout	G0111	0.1
Total		4.1

GROUND TRAINING (PILOT AND NFO INITIAL IUT)		
Stage	Symbol	Hours
Physiology*	G0102	6.0
Refresher Swim*	G0103	6.0
FITC	G0104	26.0
Safety Procedures	G0105	3.0
High-Risk Screening	G0106	2.0
IGS/Exam	G0107-8	5.0
Crew Resource Management	G0109	2.0
TRB	G0110	1.5
Total		51.5

* Optional events accomplished if required by NATOPS.

ACADEMICS (PILOT AND NFO INITIAL IUT)		
Stage	Symbol	Hours
Systems	G1001-38 G1067	42.6
Systems Exam(s)	G1039-40	2.0
NATOPS Open-Book Exam	G1041	2.0
NATOPS Closed-Book Exam	G1042	2.0
Instrument Navigation	G1043-48	7.2
Instrument Navigation Exam	G1049	1.0
Course Rules	G1050	2.0
Course Rules Exam	G1051	1.0
Emergency Flight Procedures Part One	G1052-56	7.0
Emergency Flight Procedures Exam One	G1057	1.0
Emergency Flight Procedures Part Two	G1058-61	5.7
Emergency Flight Procedures Exam Two	G1062	1.0
Out-of-Control Flight Procedures	G1063	1.0
Out-of-Control Flight Exam	G1064	1.0
Contact Flight Procedures	G1065	3.0
Contact Crew Coordination Stan	G1066	1.0
Total		80.5

IP AND NFO INSTRUCTOR (ANNUALLY)		
Stage	Symbol	Hours
IGS/Exam	G0107-8	5.0
Crew Resource Management	G0109	2.0
NACES Flight Physiology	G1029	2.0
Ejection Seat Lecture/NACES	G1035	1.0
NATOPS Open/Closed Exams	G1041-42	4.0
Total		14.0

b. Flight Support

STRIKE QUALIFICATION			
Stage	Pilot Symbol	NFO Symbol	Hours
Radar Principles and Operation II	STK1001	STK1009	1.5
A/G Radar Procedures	STK1002	STK1010	2.5
Weapons Data Entry Procedures	STK1003	STK1011	0.7
Section Flight Procedures	STK1004	STK1012	1.5
Low-Level Procedures	STK1005	STK1013	2.5
Strike Crew Coordination Stan	STK1006	STK1014	1.0
A/G Targeting Procedures	STK1007	STK1015	3.2
EW Fundamentals	STK1008	STK1016	1.5
Total			14.4

AWI QUALIFICATION			
Stage	Pilot Symbol	NFO Symbol	Hours
Air-to-Air Radar Modes II	AWI1001	AWI1014	1.3
Air Intercept Control	AWI1002	AWI1015	1.0
Intercept Visualization and Geometry	AWI1003	AWI1016	1.5
Managing Intercept Geometry II	AWI1004	AWI1017	3.0
Stern Conversion Intercepts II	AWI1005	AWI1018	1.5
Intercept Progression II	AWI1006	AWI1019	3.2
BVR Weapons Employment II	AWI1007	AWI1020	1.5
AWI Crew Coordination Stan	AWI1008	AWI1021	1.0
1 V 1 AWI Procedures II	AWI1009	AWI1022	3.5
Intercept Progression IV	AWI1010	AWI1023	1.0
Introduction to Section Radar Attacks	AWI1011	AWI1024	2.0
Introduction to 2 V X	AWI1012	AWI1025	3.5
Self-Escort Strike Route	AWI1013	AWI1026	2.0
NFO AWI IGS Training	--	AWI1101-8	29.6
Pilot Total			26.0
NFO Total			55.6

CAS QUALIFICATION			
Stage	Pilot Symbol	NFO Symbol	Hours
CAS Flight Procedures	CAS1001	CAS1003	2.0
CAS Crew Coordination Stan	CAS1002	CAS1004	1.0
Total			3.0

BFM QUALIFICATION (PILOT ONLY)			
Stage	Symbol	Hours	
HUD/Data Entry Procedures	BFM1001	0.7	
BFM Theory	BFM1002	3.0	
BFM Flight Procedures	BFM1003	3.0	
BFM Crew Coordination Stan	BFM1004	1.0	
Total		7.7	

c. Flight Training. Below are the programmed times for each phase, stage, and media:

PILOT INITIAL IUT FLIGHT TRAINING						
Flight/Events	IGS		2F205A		T-45C Dual	
	Flts	Hrs	Flts	Hrs	Flts	Hrs
NATOPS			8	12.0	10	15.0
Contact					2	3.0
Totals			8	12.0	12	18.0

NFO INITIAL IUT FLIGHT TRAINING						
Flight/Events	IGS		2F205A		T-45C Dual	
	Flts	Hrs	Flts	Hrs	Flts	Hrs
NATOPS	1*	1.5*	7	10.5	8	12.0
Totals	1*	1.5*	7	10.5	8	12.0

*The IGS is used with C4304.

PILOT STRIKE ADVANCED QUALIFICATION						
Flight/Events	IGS		2F205A		T-45C Dual	
	Flts	Hrs	Flts	Hrs	Flts	Hrs
Strike Training			3	4.5	11	13.2
Totals			3	4.5	11	13.2

PILOT CAS ADVANCED QUALIFICATION						
Flight/Events	IGS		2F205A		T-45C Dual	
	Flts	Hrs	Flts	Hrs	Flts	Hrs
CAS Training			1	1.5	5	6.0
Totals			1	1.5	5	6.0

PILOT BFM ADVANCED QUALIFICATION						
Flight/Events	IGS		2F205A		T-45C Dual	
	Flts	Hrs	Flts	Hrs	Flts	Hrs
BFM Training			1*	2.0*	7	8.4
Totals			1*	2.0*	7	8.4

*This event (2.00 hrs) is scheduled in conjunction with normal SNFO training events.

PILOT AWI ADVANCED QUALIFICATION						
Flight/Events	IGS		2F205A		T-45C Dual	
	Flts	Hrs	Flts	Hrs	Flts	Hrs
AWI Training	12*	14.4*	3	4.5	12	14.4
Totals	12*	14.4*	3	4.5	12	14.4

*The IGS is used as part of all AWI flight events.

NFO STRIKE ADVANCED QUALIFICATION						
Flight/Events	IGS		2F205A		T-45C Dual	
	Flts	Hrs	Flts	Hrs	Flts	Hrs
Strike Training			18*	34.5*	4	4.8
Totals			18*	34.5*	4	4.8

*15 of these events (30.00 hrs) are scheduled in conjunction with normal SNFO training events, while the remainder are stand-alone events executed solely for IUT training.

NFO CAS ADVANCED QUALIFICATION						
Flight/Events	IGS		2F205A		T-45C Dual	
	Flts	Hrs	Flts	Hrs	Flts	Hrs
CAS Training			9*	17.5*	3	3.6
Totals			9*	17.5*	3	3.6

*8 of these events (16.00 hrs) are scheduled in conjunction with normal SNFO training events, while the remainder are stand-alone events executed solely for IUT training.

NFO AWI ADVANCED QUALIFICATION						
Flight/Events	IGS		2F205A		T-45C Dual	
	Flts	Hrs	Flts	Hrs	Flts	Hrs
AWI Training	4*	4.8*	17**	31.0**	4	4.8
Totals	4*	4.8*	17**	31.0**	4	4.8

*The IGS is used as part of all AWI flight events.

**11 of these events (22.00 hrs) are scheduled in conjunction with normal SNFO training events, while the remainder are stand-alone events executed solely for IUT training.

16. Training Preparation Time. In addition to the hours formally planned for classes, simulators, and flights, significant additional time to prepare and study should be expected outside of scheduled training hours. This range will vary depending on the complexity of the material and individual student needs, and may be up to several hours per event. For simulator and flight events, specific brief and taxi times will be programmed into TIMS and accounted for on the flight schedule, per the following table:

ADDITIONAL FORMAL TRAINING TIME PER CURRICULUM HOUR/EVENT			
Training Area	Brief/Preflight/ Taxi	Taxi/ Debrief	Total
Simulator BFM (IP)	0.50	0.50	1.00
Simulator STK, CAS, AWI (INFO)	0.50	0.50	1.00
Simulator Contact (CSI)	0.50	0.50	1.00
Flight (IP)	1.75	1.00	2.75
AWI flights and C4304 (IGS INFO*)	1.00	1.00	2.00

*Note that IGS INFO is in addition to the IPs who fly the events.

17. Physical Requirements. As specified in Chapter 15 of the Manual of the Medical Department (NAVMED P-117) and all applicable anthropometric standards.

18. Obligated Service. Refer to MILPERSMAN for Naval personnel.

19. Primary Instructional Methods. Lecture, computer-assisted instruction (CAI), self- and group-paced study, simulator, and in-flight instruction.

20. Preceding Curriculum Data. This curriculum replaces CNATRAINST 1542.123C.

21. Student Performance Measurement/Application of Standards. The standards outlined in Chapter IX, Course Training Standards, are used to evaluate student performance for all items on all events. Final judgment regarding the satisfactory performance of any flight maneuver rests with the SI. Refer to CNATRAINST 1500.4G, Chapter VII, for further guidance.

22. Summary of Lead Overhead. The Summary of the Instructor Lead planning factor hours for the T-45 Advanced Naval Aviator/NFO IUT MNTS is tabulated below. The tables are a compilation of events requiring Instructor Lead that can be found in Chapters III and VIII of this publication.

ADVANCED PILOT T-45 IUT				
Flight/Event	# Events	Lead Hrs/Event	# IUT per Lead	Hrs/IUT
C4005	1	1.5	1	1.5
C4304	1	1.5	1	1.5
STK40	8	1.2	1	9.6
STK41	1	1.2	1	1.2
BFM40	6	1.2	1	7.2
BFM41	1	1.2	1	1.2
AWI40	11	1.2	1	13.2
AWI41	1	1.2	1	1.2
Totals	30	10.2	8	36.6

ADVANCED NFO T-45 IUT				
Flight/Event	# Events	Lead Hrs/Event	# IUT per Lead	Hrs/IUT
STK42	3	1.2	1	3.6
STK43	1	1.2	1	1.2
AWI42	3	1.2	1	3.6
AWI43	1	1.2	1	1.2
Totals	8	4.8	4	9.6

23. Additional CSI Resource Requirements. Some events require a CSI to operate the OFT in addition to the IP or INFO scheduled to instruct the event. These requirements are tabulated below. These CSIs do not attend the brief or debrief.

ADDITIONAL CSI RESOURCE REQUIREMENTS (2F205A)				
Flight/Event	Pilot		NFO	
	#Events	Hrs	#Events	Hrs
STK	3	4.5	3	4.5
CAS	1	1.5	1	1.5
AWI	3	4.5	6	9.0
Totals	7	10.5	10	15.0

Note: This table accounts for dedicated OFTs where the IUT executes the event. Other events in the syllabus are designated for the IUT to observe or instruct SNFO events and these resources are accounted for in the SNFO MCG.

ABBREVIATIONS

The following is a list of abbreviations used in the curriculum:

ANAV	-	Airways Navigation
ASI	-	Aviation Student Indoctrination
ASR	-	Airport Surveillance Radar
ATF	-	Aviation Training Form
ATJ	-	Aviation Training Jacket
ATM	-	Air Tactical Maneuvering
ATS	-	Aviation Training Summary
AWI	-	All Weather Intercepts
BAR	-	Basic Airwork Recognition
BAW	-	Basic Airwork
BFM	-	Basic Fighter Maneuvers
BFMFP	-	BFM Flight Procedures
CAI	-	Computer-Assisted Instruction
CAS	-	Close Air Support
CNATRA	-	Chief of Naval Air Training
CRM	-	Crew Resource Management
CONFP	-	Contact Flight Procedures
CTS	-	Course Training Standards
CVP	-	Aircraft Carrier Procedures
EMFP	-	Emergency Flight Procedures
EOB	-	End of Block
EP	-	Emergency Procedure
FAM	-	Familiarization
FAR	-	Federal Aviation Regulation
FFL	-	Full-Flap Landing
FITC	-	Flight Instructor Training Course
FLIP	-	Flight Information Publication
FPC	-	Final Progress Check

FTI - Flight Training Instruction
GCA - Ground-Controlled Approach
GLOC - G-Induced Loss of Consciousness
HATA - High-Altitude Target Acquisition
HOTAS - Hands-On Throttle and Stick
IAW - In Accordance With
IFR - Instrument Flight Rules
IGS - Instrument Ground School or Instructor Ground Station
INAV - Instrument Navigation
INST - Instrument Training
IP - Instructor Pilot/Intercept Procedures
IPC - Initial Progress Check
ITF - Instructor Training Form
IUT - Instructor Under Training
MC - Mission Commander
MCG - Master Curriculum Guide
MIF - Maneuver Item File
MIL - Mediated Interactive Lecture
MNTS - Multi-Service NFO Training System
MOA - Military Operations Area
MRT - Military-Rated Thrust
NATOPS - Naval Air Training and Operating Procedures Standardization
NFL - No-Flap Landing
NFO - Naval Flight Officer
NOTAMS - Notices to Airmen
OCF - Out-of-Control Flight
OCFFP - Out-of-Control Flight, Flight Procedures
OPNAV - Office of the Chief of Naval Operations
OSC - On-Scene Commander
PAR - Precision Approach Radar

PP	-	Partial Panel
PPEL	-	Practice Precautionary Emergency Landing
RHC	-	Radar Hand Controller
RRU	-	Ready Room Unsatisfactory
SI	-	Standardization Instructor
SMS	-	Student Monitoring Status
SOP	-	Standard Operating Procedure
SRA	-	Section Radar Attack
SRT	-	Standard Rate Turn
SSR	-	Special Syllabus Requirement
SUA	-	Special Use Airspace
SYS	-	Systems
TAC	-	Tactical
TACAN	-	Tactical Air Navigation
TRB	-	Training Review Board
UHF	-	Ultra High Frequency
UMFO	-	Undergraduate Military Flight Officer
UNSAT	-	Unsatisfactory
VFR	-	Visual Flight Rules
VHF	-	Very High Frequency
VMC	-	Visual Meteorological Conditions
VR	-	Visual Route

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GLOSSARY

1. Advancing X. Completed event within the normal syllabus flow. Excludes events with last characters in the range 86-89.
2. Aviation Training Summary. A tabular sheet listing the MIF and maneuver grades within a training stage.
3. Block of Training. A sequential series of lessons within a training stage sharing an identical MIF. The second numerical character in the lesson designator identifies a block.
4. Check Ride (SXX90). A check in any stage of training.
5. Contact. The stage of training that combines flight familiarization, radar intercept procedures, and visual navigation procedures.
6. Course of Training. The entire program of preflight, flight, simulation, academics, and officer development conducted in all media during the programmed training days.
7. Course Training Standard (CTS). A description of required behaviors and standards of performance for a specific maneuver. These standards are in Chapter IX.
8. Courseware. The technical data, flight training instructions, audio, video, film, CAI, instructor guides, student study guides, and other training material developed to support and implement the syllabus of instruction.
9. Critical Item. Any maneuver coded with a plus sign (+). This symbol indicates the maneuver is required and must be accomplished to the specified standard in that block of training.
10. Emergency Procedure. Any degradation of aircraft systems or flight conditions requiring crew action or intervention.
11. End of Block. Last event in block. In order to progress past EOB, the IUT must meet or exceed MIF on all critical items, and all optional items attempted, in the block.

12. Flight Training Instruction. A CNATRA-approved manual describing flight procedures and techniques for each training stage.
13. Hours per X. The average length for each event in a block, rounded to the nearest tenth of an hour.
14. Instructor Training Form. A grade sheet documenting IUT performance for all categories of training regardless of media, phase, or stage.
15. Lesson Designator. All syllabus events have a five-character lesson designator in the following format:

Char	Meaning	Remarks
1st	Stage	AWI-All Weather Intercepts BFM-Basic Fighter Maneuvers CAS-Close Air Support C-Contact G-Ground STK-Strike
2 nd	Media	0-Ground Training 1-Academics/Flt Support 2-Not Used 3-2F205A Trainer 4-Aircraft
3rd	Block	Sequential, indicating block within stage.
4th & 5th	Event/check & identifier	Sequential, indicating event within block, or other event types as shown below: 84-Adaptation Flight 85-Practice Sim 86-Warmup 87-Extra Training 88-Initial Progress Check 89-Final Progress Check 90-Check Ride/Exam

Note: In a seven-character lesson designator, the alphanumeric characters represent the Stage and the four digits after the Stage identifier are in the same format as the 2nd-5th characters in a five-character lesson designator.

16. Maneuver Item File. A listing of required maneuvers and associated proficiency levels for each block of training.

17. Master Syllabus. Chapters I-VIII list all training syllabus activities, prerequisites, and desired training flow for Advanced MNTS.
18. Special Syllabus Requirement. One-time, ungraded demonstration item.
19. Stage of Training. All training of a particular type (Ground, Contact, etc.) within a phase. The alphanumeric letter(s) in the lesson designator identifies the stage of each lesson (For example: C4001 is in the Contact Stage; AWI3001 is in the AWI Stage).
20. Standardization Instructor. The squadron commander will designate SIs for each stage.
21. Training Media. The media for this syllabus include aircraft, 2F205A trainers, ground training, and CAI. The first numerical character in the lesson identifier designates the training media. (Example: G1001 and STK1001 are academic events.)
22. Training Review Board. A fact-finding board appointed to conduct an administrative review of circumstances and procedures relative to an FPC recommendation for an IUT's elimination.

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Chapter I

General Instructions

1. Syllabus Management

- a. Distribution. Participating squadron personnel.
- b. Interpretation. The syllabus is directive. Should circumstances create situations not covered within the scope of this syllabus, or course of action appears to conflict with other directives, consult CNATRA (N71).
- c. Deviations. Document all deviations on the event's ATF.
- d. Changes. Recommended changes shall be submitted IAW CNATRAINST 1550.6E.
- e. Syllabus Description. The syllabus is divided into stages; the stages are grouped by like-flight training regimes, such as Contact, Close Air Support, and Strike. Each stage is subdivided into training blocks. The training blocks consist of a specified number of events. Course Training Standards are modified by the MIFs to identify the acceptable level of performance that must be achieved at the completion of each training block.

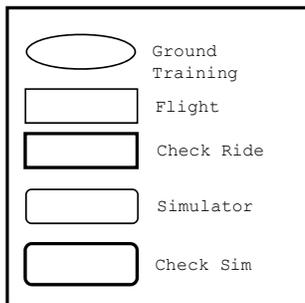
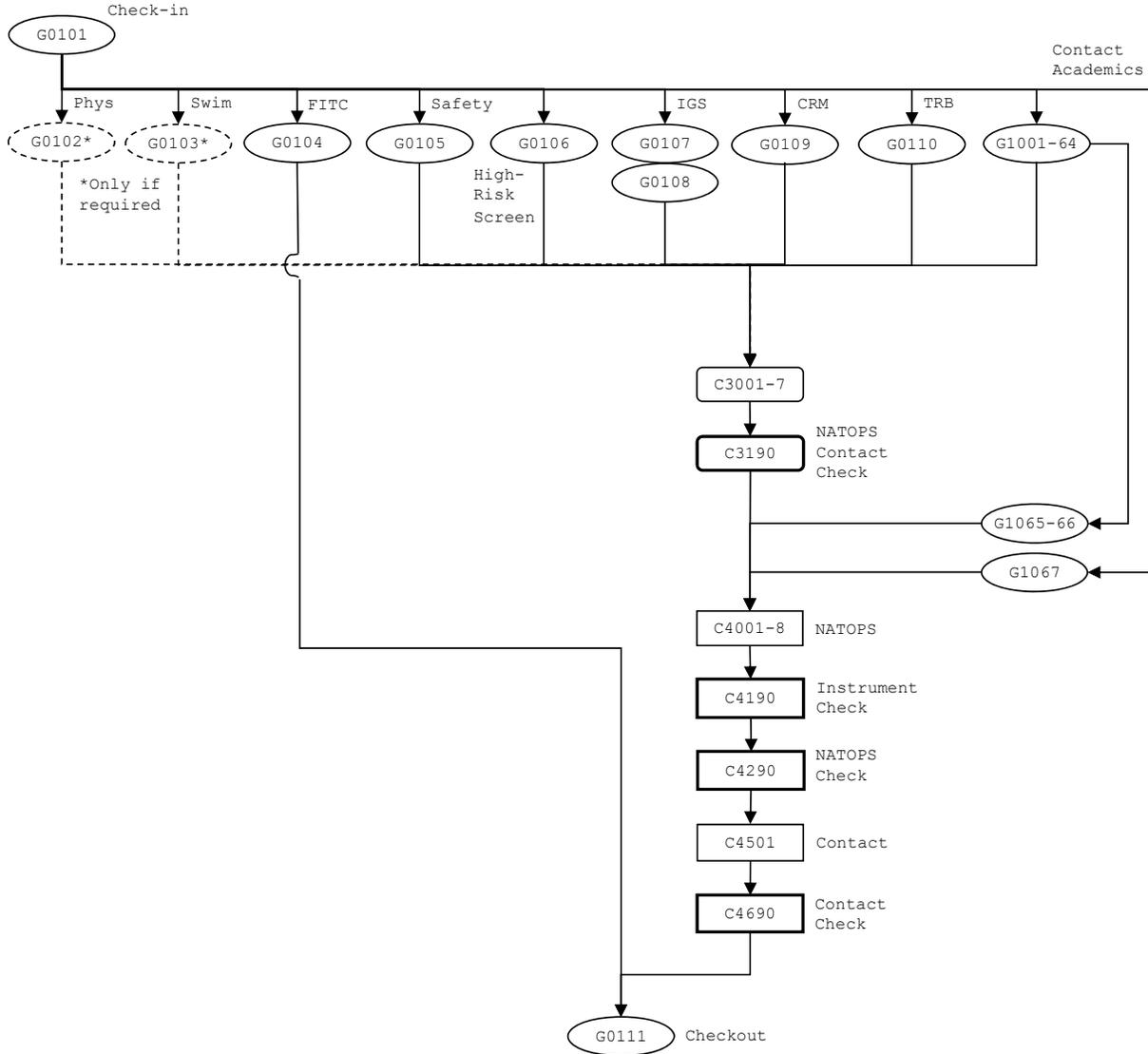
2. Training Management

- a. Syllabus Progression. Fly events within each stage sequentially, except as noted. Do not start a block without all prerequisites. IUTs must complete all events, unless approved for acceleration. The flowcharts on pages I-3 through I-9 delineate the sequence of flying events and their ground training prerequisites. System training management is designed to facilitate two graded events (flight, simulator, or exam) per IUT per day.
- b. Maneuver Continuity. IUTs must accomplish previously introduced maneuvers frequently enough to ensure maintaining required proficiency.

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c. H/X. Standardization instructors shall plan and execute missions to meet H/X as closely as practical. If actual event length varies from H/X by more than 0.3 hours, annotate reason(s) in ITF's general comments section.

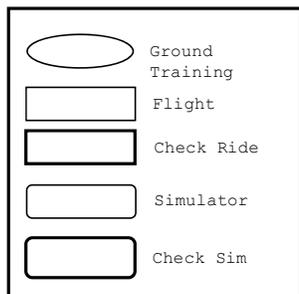
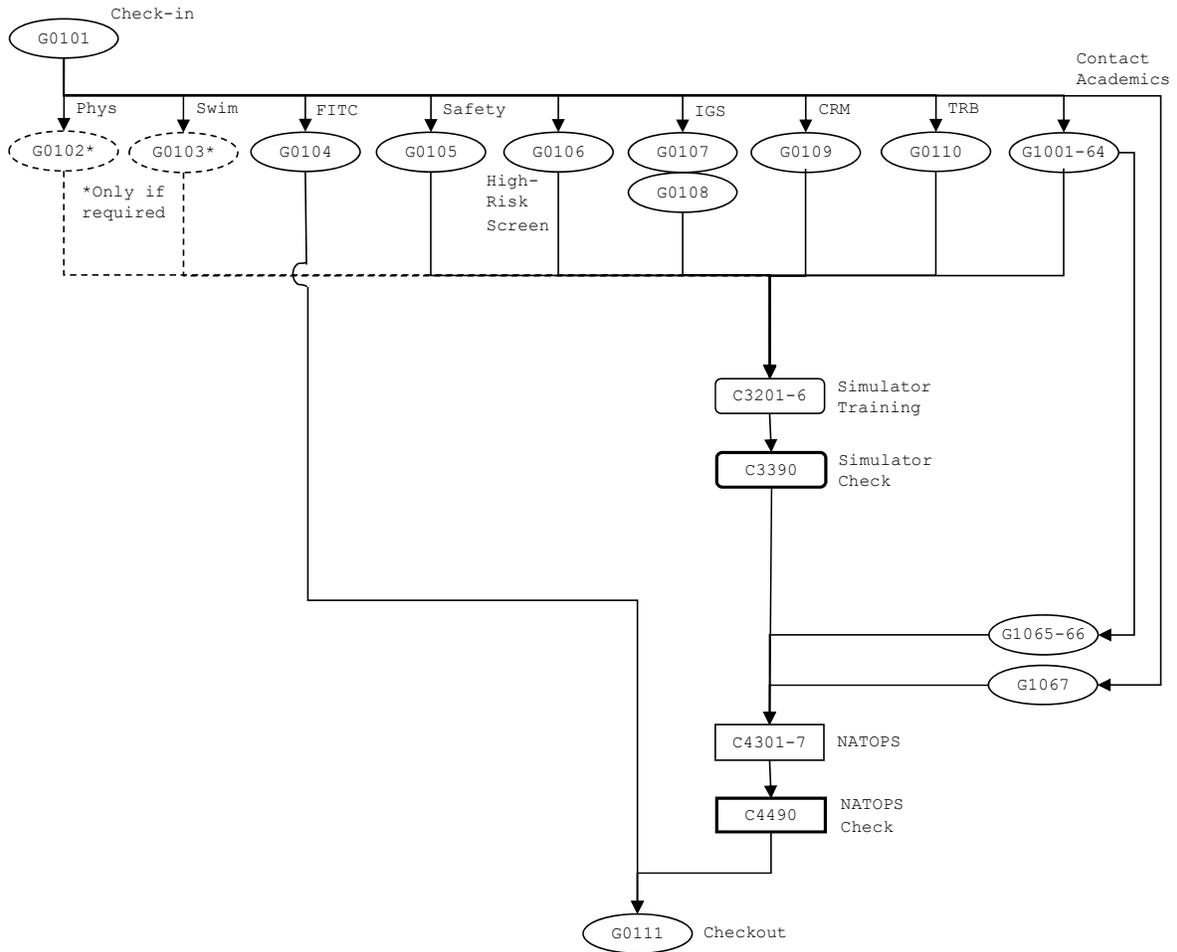
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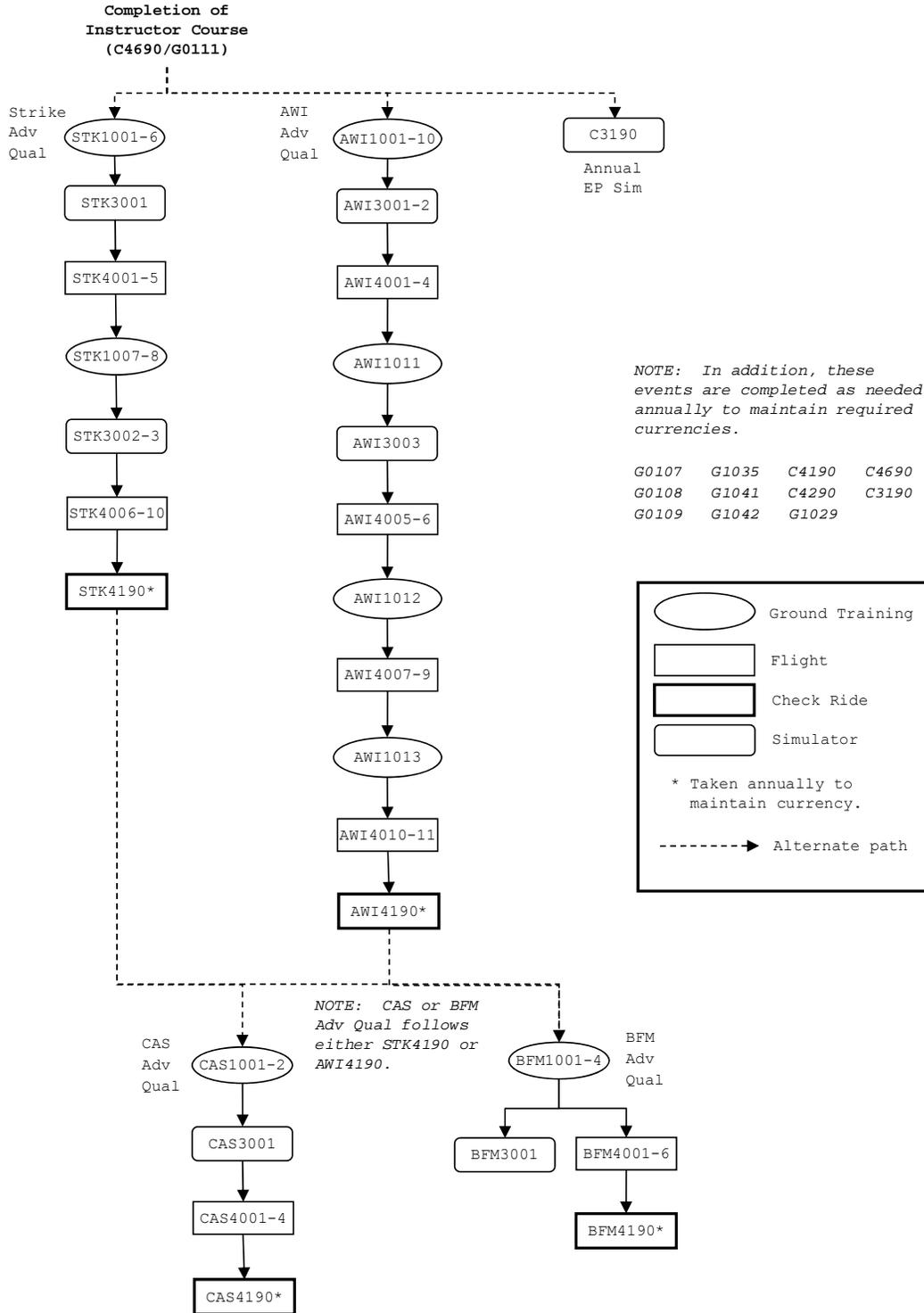
T-45C NFO IUT COURSE FLOW



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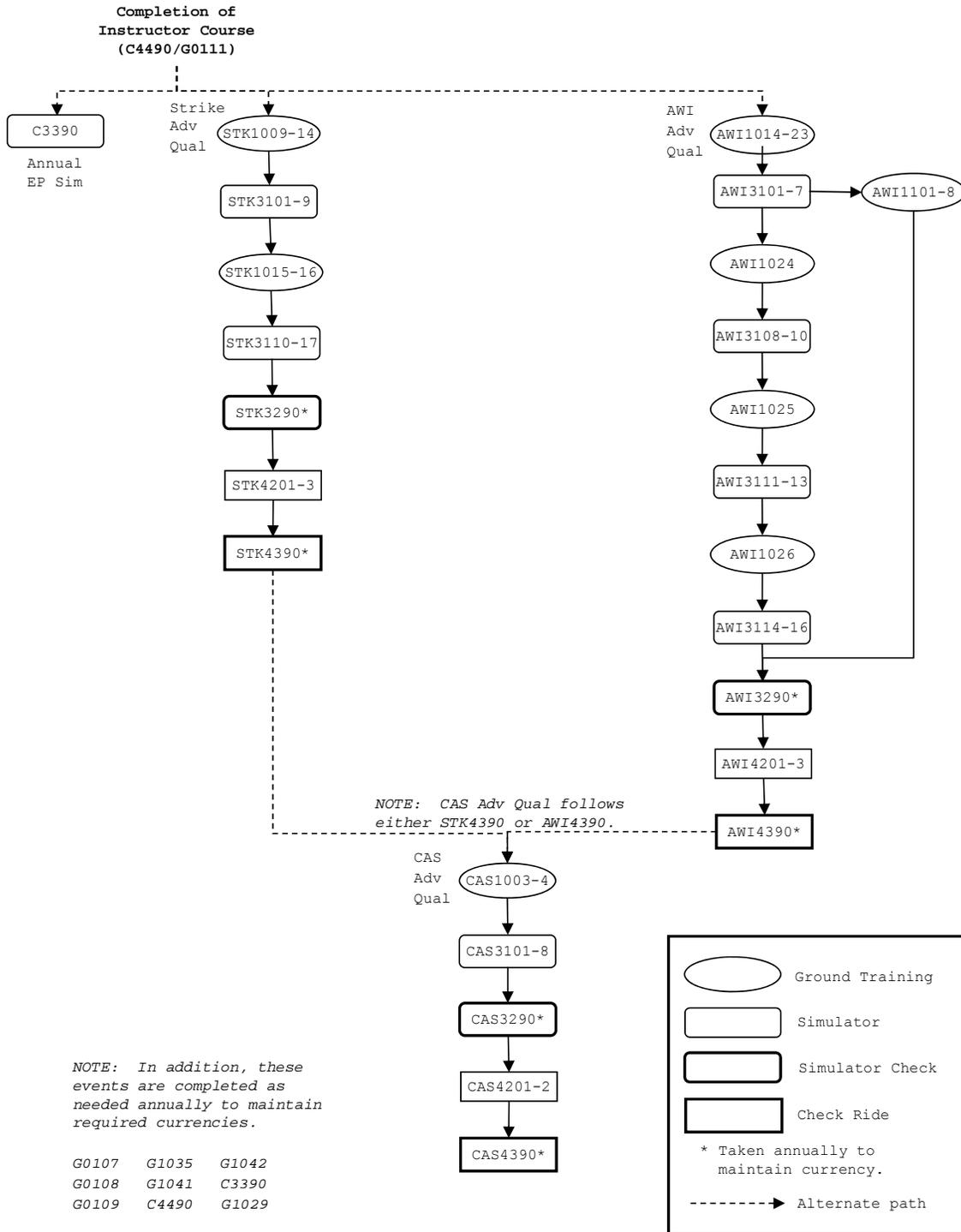
PILOT ADVANCED QUALIFICATIONS COURSE FLOW



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NFO ADVANCED QUALIFICATIONS COURSE FLOW



3. Ground Training and Briefing Requirements, Mission Preparation, Briefings, and Debriefings

a. EOB Events. The SI shall carefully review the ATS in planning the EOB event to ensure the profile includes opportunities to reach MIF on all critical and optional items attempted in the block.

b. Preparation. The IUT shall arrive for each flight with:

(1) Thorough knowledge of:

(a) Discuss items, as listed in Chapters III-VIII.

(b) Procedural knowledge of the critical and optional items for the event's training block.

(2) A flight profile tailored to training requirements, weak areas, and continuity.

(3) The latest ATS for the stage.

c. Briefing. Thoroughly cover the mission's:

(1) Discuss items, as listed in Chapters III-VIII.

(2) Specific objectives.

(3) Techniques and required procedures for accomplishing those objectives.

(4) Planned profile, contingencies, and ORM considerations.

d. Debriefing

(1) After each event, the SI shall critique the IUT's performance using cause/effect analysis, particularly with respect to the CTS.

(2) The mission's complexity and IUT's progress will govern the time required for the debrief.

(3) The SI shall provide the IUT with a new ATS, and may provide a copy of the event's ITF.

4. Mission Grading Procedures and Evaluation Policies

a. General Grading and Evaluation Policy. Course Training Standards listed in this instruction and the MIFs are minimum stage/phase completion standards per maneuver. CTS/MIFs are designed to allow for minimum performance in a specific area with the understanding that performance above the minimum CTS/MIF will offset the weak area.

b. Grading Procedures (Aircraft and Training Devices)

(1) Overall Grading

(a) The overall grade for all flight and device events, with the exception of the NATOPS Check Ride, will be pass/fail.

(b) The overall grade for the NATOPS Check Ride (C4290/C4490) will be UQ, CQ, or Q as described below:

1. Unqualified (UQ Level) - Fails to meet minimum acceptable criteria and needs supervised instruction.

2. Conditionally Qualified (CQ Level) - Meets minimum acceptable criteria and is safe to fly as the Mission Commander.

3. Qualified (Q Level) - Displays good knowledge of operational procedures and a thorough understanding of the aircraft.

(2) NATOPS Maneuver Grading. During the NATOPS phase of training, grading will be IAW NATOPS standards. This criteria applies to the following blocks of training, regardless of syllabus:

C30	C40	C32	C33	C44
C31	C41	C42	C43	

Judge the IUT's or student's proficiency only against the item's CTS or NATOPS grading criteria. The grading scale will be per the NATOPS as listed below:

- 5 = Not applicable to NATOPS Block Training
- 4 = Q
- 3 = CQ
- 2 = UQ
- 1 = Demonstrate

(3) Absolute Maneuver Grading. Use the following grading scale to document the IUT's characteristic performance on maneuvers attempted during each event, with the exception of maneuvers done during the NATOPS phase of training. This is an absolute grading scale. Judge the IUT's proficiency **only** against the item's course training standard. Maneuver grades shall be consistent with ATF comments.

(a) Demonstrated (NG/1 Level). Enter "No Grade."

1. When the SI demonstrates the maneuver and the IUT does not subsequently perform it during the event.

2. To indicate accomplishing SSRs. Specify the completed SSRs in the ITF's SSR comments section.

(b) Unable (U/2 Level). Performance is unsafe or lacks sufficient knowledge, skill, or ability. Deviations greatly exceed CTS, significantly disrupting performance. Corrections significantly lag deviations or aggravate the deviation.

(c) Fair (F/3 Level). Performance is safe, but with limited proficiency. Deviations exceed CTS, detracting from performance. Corrections noticeably lag deviations, and may not be appropriate.

(d) Good (G/4 Level). Characteristic performance is within CTS. Deviations outside CTS are allowed, provided they are brief, minor, and do not affect safety of flight. Corrections must be appropriate and timely.

(e) Excellent (E/5 Level). Greatly surpasses CTS. Performance is correct, efficient, and skillful. Deviations are very minor. Corrections, if required, are initiated by the IUT or student and are appropriate, smooth, and rapid.

(4) Progression Rule. Performance must meet MIF by the EOB. IUT shall maintain or exceed MIF performance from one block, stage, or media to the next.

(5) Maneuver Requirements. For each block:

(a) Critical Items. Items with a number and a plus (+) are mandatory and must meet the required proficiency by EOB. When a maneuver is performed multiple times in a block of training, the last grade assigned for the maneuver will determine if the student meets EOB MIF.

(b) Optional Items. Items with a number, but without a plus (+), are optional; however, if flown, they must meet the required EOB proficiency the last time the maneuver is graded in the block.

(6) Incomplete Events. If an IUT has had ample opportunity to learn a task and subsequently flies a short mission, do not incomplete the mission solely to provide unwarranted extra training. Assess the event complete if:

(a) Seventy-five percent of the event's H/X were used for training, and

(b) Sufficient events remain in the block to redress the imbalance, and

(c) Individual maneuvers can still be accomplished within the block.

(d) Otherwise, assess the event incomplete.

(7) Completion Events. An event may both complete a previous event and count as an advancing X.

(8) Trainer Event Completion. Assess a trainer event complete if the IUT has received a full 1.5-hour training period.

c. Policies for Evaluation Flights and Ground Evaluations

(1) Check Rides (SXX90). Check rides amount to single-event training blocks; therefore, all rules regarding progressing out of a block apply, except as noted below:

(a) Should fly a representative cross section of optional maneuvers.

(b) Up to two optional maneuvers may be graded F/3 where G/4 is required without requiring an overall UNSAT.

(c) The entire event should be devoted to assessing the IUT's ability and readiness to progress to the next stage of training. All maneuvers indicated with a plus (+) are check ride critical and must be accomplished to MIF.

(d) The IUT should be able to demonstrate required levels of proficiency without SI assistance; however, instruction is allowed on check rides and IUTs may reaccomplish maneuvers at the SI's discretion.

(2) Incomplete Check Ride. The check ride shall be incomplete when:

(a) Any critical (+) item was not flown, or

(b) The SI was unable to sample sufficient examples of a given maneuver to assess the IUT's overall performance.

Note: The subsequent flight need only include maneuvers required to complete the check.

(c) Exceptions: The check is complete and the overall grade is UNSAT if:

1. Any critical item is below MIF, or
2. More than two optional items were graded F/3 where G/4 is required, or
3. Any maneuver is U/2.

5. Special Instructions and Restrictions

a. Schedule Limitations. Schedule limitations for IUTs will be left to the discretion of the Instructor Training Unit (ITU) or cognizant squadron, but consistent with the provisions of OPNAVINST 3710.7U.

b. Deviations from Standard Maneuvers. All IUT flights will be conducted in accordance with the current T-45C NATOPS/Technical Orders, FTIs, and local SOPs. No deviations from standard maneuvers are authorized except in cases of emergency.

c. Minimum IUT/Student Turn-Times. One hour is required between debriefing of a flight event and the brief for a follow-on flight or simulator event. This requirement does not apply to out-and-in and cross-country profiles; however, the ITU instructor shall ensure adequate debrief and brief time is allocated.

d. Crew Day. Crew day and flight hour limitations are established by OPNAVINST 3710.7U and applicable NATOPS.

e. Crew Rest. Crew rest limitations are established by OPNAVINST 3710.7U and applicable NATOPS.

f. NATOPS Qualification Requirements. Completion of the NATOPS Check Ride (C4290 or C4490) as described in this instruction meets the NATOPS qualification requirements for the specific aircraft.

g. Previous Experience or Demonstrated Ability. Reasonable accelerations and decelerations in the curriculum are authorized when warranted by previous experience or demonstrated ability. During the accelerated period, the IUT may progress to the next block of training once MIF is met within the current block of training. Accelerations of the curriculum require Commanding Officer approval and shall be annotated in writing in the Instructor Training Jacket.

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Chapter II

Ground Training

1. Ground Training Philosophy. Newly reporting IUTs must regain NATOPS-mandated currencies, develop proper instructional technique, and become knowledgeable of their respective systems and flight preparation procedures.
2. Flight Support Training Philosophy. IUTs learn fundamentals and procedures of air-to-ground and air-to-air training and become knowledgeable of current standardization. The two primary methods of instruction are CAI and MIL. A CAI is a self-paced, computer-based instructional module. A MIL is a traditional lecture format, where an instructor teaches with the aid of electronic media.

Blk	Media	Title	Events	Hrs	Blk Name
G01	Class	Administration/ Ground Training	11	55.6	See Below

1. Prerequisites

a. Complete G0101 prior to G0102-6 (any order), G0107-8 (in order), and G0109-10 (any order).

b. Complete all applicable events for specific phase prior to G0111.

2. Events

G0101	Admin	Administration/Check-In. IUTs will check in with the Wing, Ground School, and Squadron. This event includes Publications Issue and Curriculum Introduction.		4.0	ASI
G0102	Offline MIL	Physiology. Includes classroom instruction and procedures trainers to regain necessary currency.		6.0	ASI
G0103	Lect/ Pool	Refresher Swim (Class 1). Includes classroom instruction and procedures trainers to regain necessary currency.		6.0	ASI
G0104	Offline MIL	FITC		26.0	ASI
G0105	Offline MIL	Safety Procedures. The safety officer will provide the IUT with a general overview of safety procedures.		3.0	ASI

2. Events Cont

G0106	Offline MIL	High-Risk Screening. The flight surgeon will complete this event after surveying the IUT.	2.0	ASI
G0107	Offline MIL	Instrument Ground School	3.0	IGS
G0108	P/P	IGS Open-Book Exam	2.0	IGS
G0109	Offline MIL	Crew Resource Management	2.0	CRM
G0110	Offline MIL	Training Review Board	1.5	ASI
G0111	Sqdn	Administration/Checkout	0.1	ASI

3. Syllabus Notes

- a. Complete G0109 in succession with G0107 or as required.
- b. All IUTs accomplish all these events, except G0102-3. G0102-3 are accomplished only if required by NATOPS.
- c. IUTs will accomplish the Course Rules Exam during IGS.

4. Discuss Items. None.

Blk	Media	Title	Events	Hrs	Blk Name
G10	Class	Contact Stage Academics	67	80.5	See Below

1. Prerequisites

a. G0101 (Administration/Check-In) prior to G1001-36 (any order) and G1067.

b. G1001-36 prior to G1037-64 (in order).

c. G1064 prior to G1065-66 (in order).

2. Events

G1001	Lect	Introduction to CAI		0.5	SYS
G1002	MIL	Introduction to OFT		1.5	SYS
G1003	MIL	Introduction to T-45C Configuration		1.3	SYS
G1004	MIL	Electrical System		1.3	SYS
G1005	CAI	Electrical System Malfunctions		0.7	SYS
G1006	MIL	Engine and Related Systems		1.5	SYS
G1007	CAI	Engine and Related Systems Malfunctions		1.4	SYS
G1008	CAI	Engine Systems Malfunctions		0.7	SYS
G1009	MIL	Fuel System		0.9	SYS
G1010	CAI	Fuel System Malfunctions		0.5	SYS
G1011	MIL	Hydraulic System		1.0	SYS
G1012	CAI	Hydraulic System Malfunctions		1.0	SYS
G1013	MIL	Hydraulic Subsystems		1.8	SYS
G1014	CAI	Hydraulic Subsystems Malfunctions		1.0	SYS

2. Events Cont

G1015	MIL	Flight Control System	1.3	SYS
G1016	CAI	Flight Control System Malfunctions	0.7	SYS
G1017	MIL	Egress System	1.0	SYS
G1018	CAI	Egress System Malfunctions	0.5	SYS
G1019	MIL	ECS/OBOGS	0.9	SYS
G1020	CAI	OBOGS and ECS/Pressurization System Malfunctions	0.5	SYS
G1021	MIL	Flight Instruments and Related Systems	1.3	SYS
G1022	CAI	Flight Instruments Malfunctions	0.8	SYS
G1023	MIL	CNI System	1.7	SYS
G1024	CAI	CNI System Malfunctions	1.0	SYS
G1025	MIL	Other T-45C Systems	1.0	SYS
G1026	MIL	GINA Operation Characteristics	1.5	SYS
G1027	CAI	Display System and Malfunctions	1.5	SYS
G1028	MIL	Engine Start Procedures	1.0	SYS
G1029	MIL	NACES Flight Physiology	2.0	SYS
G1030	CAI	Exterior Preflight Checks	0.6	SYS
G1031	CAI	Engine Start and Poststart Procedures	1.0	SYS
G1032	CAI	Multi-function Display and Navigation System Operation	1.2	SYS
G1033	CAI	Display System (HUD)	0.8	SYS
G1034	CAI	Waypoint Navigation Procedures	1.2	SYS

2. Events Cont

G1035	Lect	Ejection Seat Lecture/NACES	1.0	SYS
G1036	MIL	Velocity Vector	1.0	SYS
G1037	CAI	Engineering Review I	2.0	SYS
G1038	MIL	Engineering Review II	1.0	SYS
G1039	CAI	Engineering Test I	1.0	SYS
G1040	CAI	Engineering Test II	1.0	SYS
G1041	P/P	NATOPS Open-Book Examination	2.0	NATOPS
G1042	P/P	NATOPS Closed-Book Examination	2.0	NATOPS
G1043	MIL	Introduction to INAV	1.8	INST
G1044	MIL	Departure and Terminal Procedures	0.8	INST
G1045	CAI	Interpretation of High Altitude Instrument Approach Plates	0.8	INST
G1046	MIL	Flight Planning (Departure and Enroute)	1.5	INST
G1047	WKBK	Practical Problems	1.5	INST
G1048	MIL	INAV Review	0.8	INST
G1049	CAI	Instrument Navigation Block Examination	1.0	INST
G1050	Lect	Course Rules	2.0	CR
G1051	P/P	Course Rules Stage Examination	1.0	CR
G1052	MIL	Start, Ground, and Takeoff Emergency Procedures I	1.5	EMFP
G1053	CAI	Start, Ground, and Takeoff Emergency Procedures II	1.5	EMFP

2. Events Cont

G1054	MIL	Operational and Ejection Emergency Procedures (Includes Workbook)	1.0	EMFP
G1055	MIL	Engine and Hydraulic Emergency Procedures I	1.5	EMFP
G1056	CAI	Engine and Hydraulic Emergency Procedures II	1.5	EMFP
G1057	CAI	Emergency Flight Procedures Examination I	1.0	EMFP
G1058	MIL	Canopy and Flight Control Emergency Procedures (Includes Workbook)	1.0	EMFP
G1059	MIL	Electrical and Indicator Emergency Procedures I	1.7	EMFP
G1060	CAI	Electrical and Indicator Emergency Procedures II	1.5	EMFP
G1061	MIL	Operational and Landing Emergency Procedures (Includes Workbook)	1.5	EMFP
G1062	CAI	Emergency Flight Procedures Examination II	1.0	EMFP
G1063	MIL	Out-of-Control Flight Procedures	1.0	OCFFP
G1064	CAI	Out-of-Control Flight Exam	1.0	OCFFP
G1065	MIL	Contact Flight Procedures	3.0	CONFP
G1066	Lect	Contact Crew Coordination Stan	1.0	CONFP
G1067	MIL	VMTS Operation	1.0	SYS

3. Syllabus Notes. None.

4. Discuss Items. None.

Blk	Media	Title	Events	Hrs	Blk Name
STK10	Sqdn/ Class	Strike Stage Flight Support	8 (Pilot) 8 (NFO)	14.4 14.4	STK

1. Prerequisites

- a. C4690/G0111 (Pilot) prior to STK1001-6.
- b. C4490/G0111 (NFO) prior to STK1009-14.
- c. STK4005 prior to STK1007-8 (in order).
- d. STK3109 prior to STK1015-16 (in order).

2. Events

STK1001	MIL	Radar Principles and Operation II		1.5	
STK1002	MIL	A/G Radar Procedures		2.5	
STK1003	CAI	Weapons Data Entry Procedures		0.7	
STK1004	MIL	Section Flight Procedures		1.5	
STK1005	MIL	Low-Level Procedures		2.5	
STK1006	Lect	Strike Crew Coordination Stan		1.0	
STK1007	MIL	A/G Targeting Procedures		3.2	
STK1008	MIL	EW Fundamentals		1.5	
STK1009	MIL	Radar Principles and Operation II (NFO)		1.5	
STK1010	MIL	A/G Radar Procedures (NFO)		2.5	
STK1011	CAI	Weapons Data Entry Procedures (NFO)		0.7	
STK1012	MIL	Section Flight Procedures (NFO)		1.5	
STK1013	MIL	Low-Level Procedures (NFO)		2.5	

2. Events Cont

STK1014	Lect	Strike Crew Coordination Stan (NFO)	1.0
STK1015	MIL	A/G Targeting Procedures (NFO)	3.2
STK1016	MIL	EW Fundamentals (NFO)	1.5

3. Syllabus Notes. Pilots accomplish only STK1001-8; NFOs accomplish only STK1009-16.

4. Discuss Items. None.

Blk	Media	Title	Events	Hrs	Blk Name
CAS10	Sqdn/ Class	CAS Stage Flight Support	2 (Pilot) 2 (NFO)	3.0 3.0	CAS

1. Prerequisites

- a. STK4190 or AWI4190 prior to CAS1001-2 in order.
- b. STK4390 or AWI4390 prior to CAS1003-4 in order.

2. Events

CAS1001	MIL	CAS Flight Procedures		2.0	
CAS1002	Lect	CAS Crew Coordination Stan		1.0	
CAS1003	MIL	CAS Flight Procedures (NFO)		2.0	
CAS1004	Lect	CAS Crew Coordination Stan (NFO)		1.0	

3. Syllabus Notes. Pilots accomplish only CAS1001-2; NFOs accomplish only CAS1003-4.

4. Discuss Items. None.

Blk	Media	Title	Events	Hrs	Blk Name
BFM10	Sqdn/ Class	BFM Stage Flight Support	4	7.7	BFM

1. Prerequisite. STK4190 or AWI4190 prior to BFM1001-4.

2. Events

BFM1001	CAI	HUD/Data Entry Procedures		0.7	
BFM1002	MIL	BFM Theory		3.0	
BFM1003	MIL	BFM Flight Procedures		3.0	
BFM1004	Lect	BFM Crew Coordination Stan		1.0	

3. Syllabus Notes. NFOs do not accomplish this block.

4. Discuss Items. None.

Blk	Media	Title	Events	Hrs	Blk Name
AWI10	Sqdn/ Class	AWI Stage Flight Support	13 (Pilot) 13 (NFO)	26.0 26.0	AWI

1. Prerequisites

- a. C4690/G0111 prior to AWI1001-10 in order.
- b. AWI4004 prior to AWI1011, AWI4006 prior to AWI1012, and AWI4009 prior to AWI1013.
- c. C4490/G0111 prior to AWI1014-23 in order.
- d. AWI3107 prior to AWI1024, AWI3110 prior to AWI1025, and AWI3113 prior to AWI1026.

2. Events

AWI1001	MIL	Air-to-Air Radar Modes II		1.3	
AWI1002	CAI	Air Intercept Control		1.0	
AWI1003	MIL	Intercept Visualization and Geometry		1.5	
AWI1004	MIL	Managing Intercept Geometry II		3.0	
AWI1005	MIL	Stern Conversion Intercepts II		1.5	
AWI1006	MIL	Intercept Progression II		3.2	
AWI1007	MIL	BVR Weapons Employment II		1.5	
AWI1008	Lect	AWI Crew Coordination Stan		1.0	
AWI1009	MIL	1 V 1 AWI Procedures II		3.5	
AWI1010	MIL	Intercept Progression IV		1.0	
AWI1011	MIL	Introduction to Section Radar Attacks (SRA)		2.0	
AWI1012	MIL	Introduction to 2 V X		3.5	
AWI1013	MIL	Self-Escort Strike Route		2.0	

2. Events Cont

AWI1014	MIL	Air-to-Air Radar Modes II (NFO)	1.3
AWI1015	CAI	Air Intercept Control (NFO)	1.0
AWI1016	MIL	Intercept Visualization and Geometry (NFO)	1.5
AWI1017	MIL	Managing Intercept Geometry II (NFO)	3.0
AWI1018	MIL	Stern Conversion Intercepts II (NFO)	1.5
AWI1019	MIL	Intercept Progression II (NFO)	3.2
AWI1020	MIL	BVR Weapons Employment II (NFO)	1.5
AWI1021	Lect	AWI Crew Coordination Stan (NFO)	1.0
AWI1022	MIL	1 V 1 AWI Procedures II (NFO)	3.5
AWI1023	MIL	Intercept Progression IV (NFO)	1.0
AWI1024	MIL	Introduction to SRA (NFO)	2.0
AWI1025	MIL	Introduction to 2 V X (NFO)	3.5
AWI1026	MIL	Self-Escort Strike Route (NFO)	2.0

3. Syllabus Notes. Pilots accomplish only AWI1001-13; NFOs accomplish only AWI1014-26.

4. Discuss Items. None.

Blk	Media	Title	Events	Hrs	Blk Name
AWI11	Class	NFO AWI IGS Training	8	29.6	AWI

1. Prerequisite. AWI3101 prior to AWI1101.

2. Events

AWI1101	Lab	AWI IGS Training I		3.7	
AWI1102	Lab	AWI IGS Training II		3.7	
AWI1103	Lab	AWI IGS Training III		3.7	
AWI1104	Lab	AWI IGS Training IV		3.7	
AWI1105	Lab	AWI IGS Training V		3.7	
AWI1106	Lab	AWI IGS Training VI		3.7	
AWI1107	Lab	AWI IGS Training VII		3.7	
AWI1108	Lab	AWI IGS Training VIII		3.7	

3. Syllabus Notes

a. AWI1101-8 shall be conducted at the VMTS Instructor Ground Station in conjunction with Student NFO flight events.

b. AWI1101 - Observe Forward Quarter to Stern Conversion Intercepts flight event at the IGS.

c. AWI1102 - Instruct Forward Quarter to Stern Conversion Intercepts flight event at the IGS.

d. AWI1103 - Observe Forward Quarter to High-Aspect Merge 1 V 1 Intercepts flight event.

e. AWI1104 - Instruct Forward Quarter to High-Aspect Merge 1 V 1 Intercepts flight event.

f. AWI1105 - Observe Section A/A Tactics 2 V 2 flight event.

- g. AWI1106 - Observe Section A/A Tactics 2 V X flight event.
 - h. AWI1107 - Instruct Section A/A Tactics 2 V 2 flight event.
 - i. AWI1108 - Instruct Section A/A Tactics 2 V X flight event.
 - j. An IUT shall not instruct a check ride (XX90) event.
4. Discuss Items. None.

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Chapter III

NATOPS Training

1. Refresher Flight Training Philosophy. Allow IUT a chance to experience the "hot seat" and to gain experience in the T-45C. Comply with T-45C NATOPS check-ride requirements.

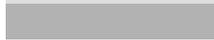
2. Matrices. The following matrices are an overview of the entire NATOPS Stage, separated into T-45C NATOPS pilot and NFO training. The purpose of these matrices is to provide the IUT and SI the easiest way to track progress, regression, and overall status in relation to the MIF. In addition, there is a single matrix following each block description throughout this chapter.

3. Pilot NATOPS Stage MIF

 Simulator Event
 Check Event

PILOT NATOPS STAGE MANEUVER ITEM FILE						
CTS REF	MANEUVER	C3007	C3190	C4008	C4190	C4290
1	General Knowledge/Procedures	4+	4+	4+	4+	4+
2	Emergency Procedures/Limitations	4+	4+	4+	4+	4+
3	Mission Planning			4+	4+	4+
5	NATOPS Procedures	4+	4+	4+	4+	4+
6	Ground Operations			4+	4+	4+
8	Headwork/Situational Awareness	4+	4+	4+	4+	4+
9	Basic Airwork	4+	4+	4+	4+	4+
10	In-flight Planning/Area Orientation			4+	4+	4+
15	Stalls/OCF	4+	4+	4+		4+
16	Course Rules/INAV			4+	4+	4+
17	Landings			4+		4+

4. NFO NATOPS Stage MIF

 Simulator Event
 Check Event

NFO NATOPS STAGE MANUEVER ITEM FILE					
CTS REF	MANUEVER	C3206	C3390	C4307	C4490
1	General Knowledge/Procedures	4+	4+	4+	4+
2	Emergency Procedures/Limitations	4+	4+	4+	4+
3	Mission Planning			4+	4+
5	NATOPS Procedures	4+	4+	4+	4+
6	Ground Operations			4+	4+
7	Crew Resource Management	4+	4+	4+	4+
8	Headwork/Situational Awareness	4+	4+	4+	4+
9	Basic Airwork Recognition	4+	4+	4+	4+
10	In-flight Planning/Area Orientation			4+	4+
16	Course Rules/INAV			4+	4+

Blk	Media	Title	Events	Hrs	H/X
C30	2F205A	Pilot Simulator Training	7	10.5	1.5

1. Prerequisites

- a. G0102-3 (Physiology/Refresher Swim) (if required).
- b. G0105-10 (Safety Procedures, High-Risk Screening, IGS, CRM, TRB).
- c. G1064 (Out-of-Control Flight Exam).

2. Syllabus Notes. All pilot IUTs shall complete all events.

- a. C3001-2 Cockpit Orientation.
- b. C3003 Instrument - Familiarization.
- c. C3004 Familiarization - Ground Emergencies.
- d. C3005 Instrument - Airborne Emergencies.
- e. C3006 Out-of-Control Flight - Engine Emergencies.
- f. C3007 Formation - Electrical and Hydraulic Emergencies.

3. Special Syllabus Requirements. None.

4. Discuss Items. None.

5. Block MIF

CTS REF	MANEUVER	C3007
1	General Knowledge/Procedures	4+
2	Emergency Procedures/Limitations	4+
5	NATOPS Procedures	4+
8	Headwork/Situational Awareness	4+
9	Basic Airwork	4+
15	Stalls/OCF	4+

Blk	Media	Title	Events	Hrs	H/X
C31	2F205A	Pilot Simulator Check	1	1.5	1.5

1. Prerequisite. C3007.

2. Syllabus Notes

a. The IUT will perform selected items from Block C30 at the discretion of the SI.

b. This event will be used to fulfill the annual Emergency Procedures Trainer requirement for pilots.

3. Special Syllabus Requirements. None.

4. Discuss Items. None.

5. Block MIF

CTS REF	MANEUVER	C3190
1	General Knowledge/Procedures	4+
2	Emergency Procedures/Limitations	4+
5	NATOPS Procedures	4+
8	Headwork/Situational Awareness	4+
9	Basic Airwork	4+
15	Stalls/OCF	4+

Blk	Media	Title	Events	Hrs	H/X
C40	T-45C	Pilot NATOPS Flight Training	8	12.0	1.5

1. Prerequisites

- a. C3190.
- b. G1066 and G1067 (CONFP and VMTS Operation).

2. Syllabus Notes. IUTs will occupy the front cockpit.

- a. C4001 Instrument - Familiarization.
- b. C4002 Familiarization.
- c. C4003 Instrument - Familiarization.
- d. C4004 Out-of-Control Flight.
- e. C4005 Two-plane Formation (flown as Dash 2 with dedicated lead).
- f. C4006 Instrument - Familiarization.
- g. C4007 Night Familiarization.
- h. C4008 Airways Navigation.

3. Special Syllabus Requirements. None.

4. Discuss Items. None.

5. Block MIF

CTS REF	MANEUVER	C4008
1	General Knowledge/Procedures	4+
2	Emergency Procedures/Limitations	4+
3	Mission Planning	4+
5	NATOPS Procedures	4+
6	Ground Operations	4+
8	Headwork/Situational Awareness	4+
9	Basic Airwork	4+
10	In-flight Planning/Area Orientation	4+
15	Stalls/OCF	4+
16	Course Rules/INAV	4+
17	Landings	4+

Blk	Media	Title	Events	Hrs	H/X
C41	T-45C	Pilot Instrument Check Ride	1	1.5	1.5

1. Prerequisites

- a. C4008.
- b. G0108 (IGS Open-Book Exam—when repeated annually).

2. Syllabus Notes

- a. IUTs will occupy the front cockpit.
- b. This event is repeated annually to maintain currency.

3. Special Syllabus Requirements. None.

4. Discuss Items. None.

5. Block MIF

CTS REF	MANEUVER	C4190
1	General Knowledge/Procedures	4+
2	Emergency Procedures/Limitations	4+
3	Mission Planning	4+
5	NATOPS Procedures	4+
6	Ground Operations	4+
8	Headwork/Situational Awareness	4+
9	Basic Airwork	4+
10	In-flight Planning/Area Orientation	4+
16	Course Rules/INAV	4+

Blk	Media	Title	Events	Hrs	H/X
C42	T-45C	Pilot NATOPS Check Ride	1	1.5	1.5

1. Prerequisites

- a. C4190.
- b. G1041-42 (NATOPS Open- and Closed-Book Exams, when event is repeated annually).

2. Syllabus Notes

- a. The IUT will occupy the front cockpit during this event.
- b. This event is repeated annually to maintain currency.

3. Special Syllabus Requirements. None.

4. Discuss Items. None.

5. Block MIF

CTS REF	MANEUVER	C4290
1	General Knowledge/Procedures	4+
2	Emergency Procedures/Limitations	4+
3	Mission Planning	4+
5	NATOPS Procedures	4+
6	Ground Operations	4+
8	Headwork/Situational Awareness	4+
9	Basic Airwork	4+
10	In-flight Planning/Area Orientation	4+
15	Stalls/OCF	4+
16	Course Rules/INAV	4+
17	Landings	4+

Blk	Media	Title	Events	Hrs	H/X
C32	2F205A	NFO Simulator Training	6	9.0	1.5

1. Prerequisites

- a. G0102-3 (Physiology/Refresher Swim) (if required).
- b. G0105-10 (Safety Procedures, High-Risk Screening, IGS, CRM, TRB).
- c. G1064 (Out-of-Control Flight Procedures).

2. Syllabus Notes. All IUTs shall complete all events.

- a. C3201-02 Cockpit Orientation.
- b. C3203 Familiarization - Ground Emergencies.
- c. C3204 Instrument - Airborne Emergencies.
- d. C3205 Out-of-Control Flight - Engine Emergencies.
- e. C3206 Formation - Electrical and Hydraulic Emergencies.

3. Special Syllabus Requirements. None.

4. Discuss Items. None.

5. Block MIF

CTS REF	MANEUVER	C3206
1	General Knowledge/Procedures	4+
2	Emergency Procedures/Limitations	4+
5	NATOPS Procedures	4+
7	Crew Resource Management	4+
8	Headwork/Situational Awareness	4+
9	Basic Airwork Recognition	4+

Blk	Media	Title	Events	Hrs	H/X
C33	2F205A	NFO Simulator Check	1	1.5	1.5

1. Prerequisite. C3206.

2. Syllabus Notes

a. The IUT will perform selected items from block C32 at the discretion of the SI.

b. This event will be used to fulfill the annual Emergency Procedures trainer requirement for aircrew.

3. Special Syllabus Requirements. None.

4. Discuss Items. None.

5. Block MIF

CTS REF	MANEUVER	C3390
1	General Knowledge/Procedures	4+
2	Emergency Procedures/Limitations	4+
5	NATOPS Procedures	4+
7	Crew Resource Management	4+
8	Headwork/Situational Awareness	4+
9	Basic Airwork Recognition	4+

Blk	Media	Title	Events	Hrs	H/X
C43	T-45C	NFO NATOPS Flight Training	7	10.5	1.5

1. Prerequisites

- a. C3390.
- b. G1066 and G1067 (CONFP and VMTS Operation).

2. Syllabus Notes

- a. The IUT will occupy the aft cockpit during these events.
- b. The IUT must complete a minimum of 10.0 flight hours in the T-45C in order to proceed to C4490 and/or receive a NATOPS qualification.

- c. C4301 Instrument - Familiarization.
- d. C4302 Instrument - Familiarization.
- e. C4303 VMTS - Familiarization.

f. C4304 VMTS - Air to Air Familiarization (Internal Virtual); flown in 2-plane formation with dedicated lead; requires IGS and INFO in addition to Instructor Pilot. IGS INFO will brief conduct with aircrew one hour prior to takeoff and will attend debrief.

g. C4305 VMTS - Air-to-Ground Familiarization (Internal Virtual).

h. C4306 Familiarization - Contact Flight Procedures.

i. C4307 Familiarization - Contact Flight Procedures.

3. Special Syllabus Requirements. None.

4. Discuss Items. None.

5. Block MIF

CTS REF	MANEUVER	C4307
1	General Knowledge/Procedures	4+
2	Emergency Procedures/Limitations	4+
3	Mission Planning	4+
5	NATOPS Procedures	4+
6	Ground Operations	4+
7	Crew Resource Management	4+
8	Headwork/Situational Awareness	4+
9	Basic Airwork Recognition	4+
10	In-flight Planning/Area Orientation	4+
16	Course Rules/INAV	4+

Blk	Media	Title	Events	Hrs	H/X
C44	T-45C	NFO NATOPS Check Ride	1	1.5	1.5

1. Prerequisites

- a. C4307.
- b. G1041-42 (NATOPS exams) (when repeated annually).

2. Syllabus Notes

- a. The IUT will occupy the aft cockpit during this event.
- b. The IUT will perform selected items from block C32 at the discretion of the SI.
- c. The IUT must complete a minimum of 10.0 flight hours in the T-45C in order to proceed to C4490 and/or receive a NATOPS qualification.
- d. This event is repeated annually to maintain currency.

3. Special Syllabus Requirements. None.

4. Discuss Items. None.

5. Block MIF

CTS REF	MANEUVER	C4490
1	General Knowledge/Procedures	4+
2	Emergency Procedures/Limitations	4+
3	Mission Planning	4+
5	NATOPS Procedures	4+
6	Ground Operations	4+
7	Crew Resource Management	4+
8	Headwork/Situational Awareness	4+
9	Basic Airwork Recognition	4+
10	In-flight Planning/Area Orientation	4+
16	Course Rules/INAV	4+

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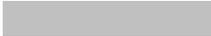
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Chapter IV

Contact Training

1. Matrices. The purpose of this matrix is to provide the IUT and SI the easiest way to track progress, regression, and overall status in relation to the MIF. In addition, there is a single matrix following each block description throughout this chapter.

2. Stage MIF

 Check Event

CONTACT STAGE MANEUVER ITEM FILE			
CTS REF	MANEUVER	C4501	C4690
1	General Knowledge/Procedures	4+	4+
2	Emergency Procedures	4+	4+
4	Briefing	4+	4+
5	NATOPS Procedures	4+	4+
7	Crew Resource Management	4+	4+
8	Headwork/Situational Awareness	4+	4+
9	Basic Airwork	4+	4+
18	Flight Instruction/Detect and Correct Student Errors	4+	4+
21	Grading	4+	4+
22	Debrief	4+	4+

Blk	Media	Title	Events	Hrs	H/X
C45	T-45C	Pilot Contact Flight Training	1	1.5	1.5

1. Prerequisite. C4290.
2. Syllabus Notes
 - a. The IUT will occupy the front cockpit.
 - b. The SI will assume the role of the student NFO and the IUT will assess performance during C4501.
3. Special Syllabus Requirements. None.
4. Discuss Items. Local IFR departures, commonly used stereo routes, course rules (home and outlying fields), MOA/SUA operations, MNTS grading system and student MCG, currency requirements, standardization notes, briefing techniques, and common mistakes.
5. Block MIF

CTS REF	MANEUVER	C4501
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
4	Briefing	4+
5	NATOPS Procedures	4+
7	Crew Resource Management	4+
8	Headwork/Situational Awareness	4+
9	Basic Airwork	4+
18	Flight Instruction/Detect and Correct Student Errors	4+
21	Grading	4+
22	Debrief	4+

Block	Media	Title	Events	Hrs	H/X
C46	T-45C	Pilot Contact Check Ride	1	1.5	1.5

1. Prerequisite. C4501.
2. Syllabus Notes
 - a. The IUT will occupy the front cockpit.
 - b. The SI will assume the role of the student NFO and the IUT will assess performance during C4690.
3. Special Syllabus Requirements. None.
4. Discuss Items. Local IFR departures, commonly used stereo routes, course rules (home and outlying fields), MOA/SUA operations, MNTS grading system and student MCG, currency requirements, standardization notes, briefing techniques, and common mistakes.
5. Block MIF

CTS REF	MANEUVER	C4690
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
4	Briefing	4+
5	NATOPS Procedures	4+
7	Crew Resource Management	4+
8	Headwork/Situational Awareness	4+
9	Basic Airwork	4+
18	Flight Instruction/Detect and Correct Student Errors	4+
21	Grading	4+
22	Debrief	4+

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Chapter V

Instrument Training

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IUT curriculum.

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Chapter VI

Navigation Training

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IUT curriculum.

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Chapter VII

Formation Training

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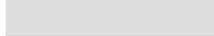
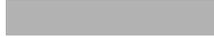
Chapter VIII

Tactical Training

1. Training Philosophy. IUTs observe and instruct flight and simulator events in all phases under supervision of a qualified SI.

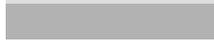
2. Matrices. The following matrices are an overview of the entire Tactical Stage (Strike, CAS, AWI and BFM training) separated into Pilot and NFO training. A majority of the T-45 pilot's training is conducted in the aircraft, while NFO's training is conducted in the OFT. Both pilots and NFOs use the OFT to learn procedures. The purpose of these matrices is to provide the IUT and SI the easiest way to track progress, regression, and overall status in relation to the MIF. In addition, there is a single matrix following each block description throughout this chapter.

3. Pilot Tactical Training Stage MIF

 Simulator Event
 Check Event

PILOT TACTICAL TRAINING STAGE MANEUVER ITEM FILE													
CTS REF	MANEUVER	STK3003	STK4010	STK4190	CAS3001	CAS4004	CAS4190	BFM3001	BFM4006	BFM4190	AWI3003	AWI4011	AWI4190
1	General Knowledge/ Procedures	4+	4+	4+	4+	4+	4+	4+	4+	4+	4+	4+	4+
2	Emergency Procedures	4+	4+	4+	4+	4+	4+	4+	4+	4+	4+	4+	4+
4	Briefing	4+	4+	4+	4+	4+	4+	4+	4+	4+	4+	4+	4+
5	NATOPS Procedures	4+	4+	4+	4+	4+	4+	4+	4+	4+	4+	4+	4+
7	Crew Resource Management	4+	4+	4+	4+	4+	4+	4+	4+	4+	4+	4+	4+
8	Headwork/Situational Awareness	4+	4+	4+	4+	4+	4+	4+	4+	4+	4+	4+	4+
9	Basic Airwork	4+	4+	4+	4+	4+	4+	4+	4+	4+	4+	4+	4+
11	Strike Flight Procedures	4+	4+	4+									
12	CAS Flight Procedures				4+	4+	4+						
13	BFM Flight Procedures							4+	4+	4+			
14	AWI Flight Procedures										4+	4+	4+
18	Flight Instruction/ Detect and Correct Student Errors	4+	4+	4+	4+	4+	4+	4+	4+	4+	4+	4+	4+
19	Coverage of Check Items	4+	4+	4+	4+	4+	4+	4+	4+	4+	4+	4+	4+
22	Debrief	4+	4+	4+	4+	4+	4+	4+	4+	4+	4+	4+	4+

4. NFO Tactical Training Stage MIF

 Simulator Event
 Check Event

NFO TACTICAL TRAINING STAGE MANEUVER ITEM FILE													
CTS REF	MANEUVER	STK3117	STK3290	STK4203	STK4390	CAS3108	CAS3290	CAS4202	CAS4390	AWI3116	AWI3290	AWI4203	AWI4390
1	General Knowledge/ Procedures	4+	4+	4+	4+	4+	4+	4+	4+	4+	4+	4+	4+
2	Emergency Procedures	4+	4+			4+	4+			4+	4+		
3	Mission Planning			4+	4+			4+	4+			4+	4+
4	Briefing	4+	4+	4+	4+	4+	4+	4+	4+	4+	4+	4+	4+
5	NATOPS Procedures	4+	4+	4+	4+	4+	4+	4+	4+	4+	4+	4+	4+
6	Ground Operations			4+	4+			4+	4+			4+	4+
7	Crew Resource Management	4+	4+	4+	4+	4+	4+	4+	4+	4+	4+	4+	4+
8	Headwork/ Situational Awareness	4+	4+	4+	4+	4+	4+	4+	4+	4+	4+	4+	4+
10	In-flight Planning/Area Orientation			4+	4+			4+	4+			4+	4+
11	Strike Flight Procedures	4+	4+	4+	4+								
12	CAS Flight Procedures					4+	4+	4+	4+				
14	AWI Flight Procedures									4+	4+	4+	4+

MIF continued on next page.

NFO TACTICAL TRAINING STAGE MANEUVER ITEM FILE													
CTS REF	MANEUVER	STK3117	STK3290	STK4203	STK4390	CAS3108	CAS3290	CAS4202	CAS4390	AWI3116	AWI3290	AWI4203	AWI4390
18	Flight Instruction/ Detect and Correct Student Errors	4+	4+	4+	4+	4+	4+	4+	4+	4+	4+	4+	4+
19	Coverage of Check Items	4+	4+			4+	4+			4+	4+		
20	ATJ Review	4+	4+			4+	4+			4+	4+		
21	Grading	4+	4+			4+	4+			4+	4+		
22	Debrief	4+	4+	4+	4+	4+	4+	4+	4+	4+	4+	4+	4+

Blk	Media	Title	Events	Hrs	H/X
STK30	2F205A	Pilot Strike Simulator Training	3	4.5	1.5

1. Prerequisites

- a. STK1006 (Strike Crew Coordination Stan) prior to STK3001.
- b. STK1008 (EW Fundamentals) prior to STK3002-3 in order.

2. Syllabus Notes

- a. The IUT will utilize stick, throttle, and RHC HOTAS during STK3001-3.
- b. STK3001 shall be flown as medium-altitude target acquisition flight. Introduce Air-to-Ground Radar modes and functionality. IUT shall utilize various A/G radar modes to acquire targets.
- c. STK3002 - Introduce A/G Timeline and target attack procedures. Utilize all PGM weapon delivery profiles in target attacks.
- d. STK3003 - Introduce EW page usage and interpretation in conjunction with target acquisition event. Event shall be conducted with emphasis on A/G timeline, surface threats, target acquisition, target attack, and target egress procedures.
- e. Events instructed by Strike-qualified INFO. CSI will operate the OFT, but will not attend the brief or debrief.

3. Special Syllabus Requirements. None.

4. Discuss Items. As required.

5. Block MIF

CTS REF	MANEUVER	STK3003
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
4	Briefing	4+
5	NATOPS Procedures	4+
7	Crew Resource Management	4+
8	Headwork/Situational Awareness	4+
9	Basic Airwork	4+
11	Strike Flight Procedures	4+
18	Flight Instruction/Detect and Correct Student Errors	4+
19	Coverage of Check Items	4+
22	Debrief	4+

Blk	Media	Title	Events	Hrs	H/X
STK40	T-45C	Pilot Strike Training	10	12.0	1.2

1. Prerequisites

- a. STK3001 prior to STK4001.
- b. STK3003 prior to STK4006.

2. Syllabus Notes

- a. The IUT will occupy the front cockpit and fly as Dash 2 in all section flights.
- b. The SI will assume the role of the student NFO and the IUT will assess performance during STK4001-10.
- c. STK4002-3 and STK4005-10 flown in section.
- d. STK4001 - Introduce VMTS initialization procedures, VMTS air-to-ground setup, modes, and functionality. Execute medium-altitude target acquisition as a single aircraft.
- e. STK4002-3 - Execute VMTS initialization procedures, VMTS air-to-ground setup, modes, and functionality. Execute medium-altitude target acquisition as a section.
- f. STK4004-5 conducted on VR route.
- g. STK4004 - Introduce low-altitude, visual target acquisition procedures. Event shall focus on low-level flight procedures as a single aircraft.
- h. STK4005 - Execute section low-altitude, visual target acquisition procedures. Event shall focus on low-level flight procedures.
- i. STK4006 - Execute visual bombing pattern. Utilize visual target acquisition with roll-in deliveries. Conducted as a section.
- j. STK4007-8 - Execute target acquisition and attack utilizing PGM deliveries as a section. Introduce VMTS instructor page surface threats utilization.

k. STK4009-10 - Execute strike route. Event shall be conducted as a section with emphasis on A/G timeline, surface threats, target acquisition, target attack, and egress procedures.

3. Special Syllabus Requirements. None.
4. Discuss Items. As required.
5. Block MIF

CTS REF	MANEUVER	STK4010
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
4	Briefing	4+
5	NATOPS Procedures	4+
7	Crew Resource Management	4+
8	Headwork/Situational Awareness	4+
9	Basic Airwork	4+
11	Strike Flight Procedures	4+
18	Flight Instruction/Detect and Correct Student Errors	4+
19	Coverage of Check Items	4+
22	Debrief	4+

Blk	Media	Title	Events	Hrs	H/X
STK41	T-45C	Pilot Strike Check Ride	1	1.2	1.2

1. Prerequisite. STK4010.
2. Syllabus Notes
 - a. The IUT will occupy the front cockpit and fly as Dash 2.
 - b. The SI will assume the role of the student NFO and the IUT will assess performance during STK4190.
 - c. Flight will be flown as a Strike Route. Event shall be conducted as a section with emphasis on A/G timeline, surface threats, target acquisition, target attack, and egress procedures.
3. Special Syllabus Requirements. None.
4. Discuss Items. As required.
5. Block MIF

CTS REF	MANEUVER	STK4190
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
4	Briefing	4+
5	NATOPS Procedures	4+
7	Crew Resource Management	4+
8	Headwork/Situational Awareness	4+
9	Basic Airwork	4+
11	Strike Flight Procedures	4+
18	Flight Instruction/Detect and Correct Student Errors	4+
19	Coverage of Check Items	4+
22	Debrief	4+

Blk	Media	Title	Events	Hrs	H/X
STK31	2F205A	NFO Strike	Execute/3	4.5	1.5
		Simulator Training	Observe/7	14.0	2.0
			Instruct/7	14.0	2.0

1. Prerequisites

a. STK1014 (Strike Crew Coordination Stan (NFO)) prior to STK3101-9 in order.

b. STK1016 (EW Fundamentals (NFO)) prior to STK3110-17 in order.

2. Syllabus Notes

a. The IUT will occupy the OFT aft seat during execute events (STK3103, STK3110, and STK3115); execute events instructed by INFO. CSI will operate OFT, but will not attend brief or debrief.

b. The IUT will complete events as follows:

IUT Event	IUT Role	Corresponding SNFO Event	Description
STK3101	Observe	STK3001	CV Ops
STK3102	Instruct	STK3001	CV Ops
STK3103	Execute	N/A	Target Acquisition
STK3104	Observe	STK3102	HATA
STK3105	Instruct	STK3102	HATA
STK3106	Observe	STK3103	Section HATA
STK3107	Instruct	STK3103	Section HATA
STK3108	Observe	STK3104	Section VNAV
STK3109	Instruct	STK3104 or STK3105	Section VNAV
STK3110	Execute	N/A	PGM Strike Route
STK3111	Observe	STK3201	Adv Strike Route
STK3112	Instruct	STK3201	Adv Strike Route
STK3113	Observe	STK3202	PGM Strike Route
STK3114	Instruct	STK3202 or STK3203	PGM Strike Route
STK3115	Execute	N/A	LL Strike Route
STK3116	Observe	STK3204 or STK3205	LL Strike Route
STK3117	Instruct	STK3204 or STK3205	LL Strike Route

c. INFO shall complete IUT gradesheet for all events. For those events where IUT acts as the instructor, the IUT shall complete the majority of the SNFO gradesheet, which shall then be edited as needed, submitted, and signed by the INFO.

d. An IUT may not instruct an XX90 event.

3. Special Syllabus Requirements. None.

4. Discuss Items. As required.

5. Block MIF

CTS REF	MANEUVER	STK3117
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
4	Briefing	4+
5	NATOPS Procedures	4+
7	Crew Resource Management	4+
8	Headwork/Situational Awareness	4+
11	Strike Flight Procedures	4+
18	Flight Instruction/Detect and Correct Student Errors	4+
19	Coverage of Check Items	4+
20	ATJ Review	4+
21	Grading	4+
22	Debrief	4+

Blk	Media	Title	Events	Hrs	H/X
STK32	2F205A	NFO Strike Check	Instruct/1	2.0	2.0

1. Prerequisite. STK3117.

2. Syllabus Notes

a. Instruct any SNFO Strike Simulator event, except XX90 event; observed by a qualified INFO.

b. INFO shall complete IUT gradesheet for the event. The IUT should complete the majority of the SNFO gradesheet, which shall then be edited, submitted and signed by the INFO.

3. Special Syllabus Requirements. None.

4. Discuss Items. As required.

5. Block MIF

CTS REF	MANEUVER	STK3290
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
4	Briefing	4+
5	NATOPS Procedures	4+
7	Crew Resource Management	4+
8	Headwork/Situational Awareness	4+
11	Strike Flight Procedures	4+
18	Flight Instruction/Detect and Correct Student Errors	4+
19	Coverage of Check Items	4+
20	ATJ Review	4+
21	Grading	4+
22	Debrief	4+

Blk	Media	Title	Events	Hrs	H/X
STK42	T-45C	NFO Strike Training	3	3.6	1.2

1. Prerequisite. STK3290.

2. Syllabus Notes

a. IUT will occupy the aft cockpit of the lead aircraft. Flights will be flown as section with a dedicated wingman (not an SNFO event).

b. STK4201 - Execute section medium altitude, target acquisition. Introduce VMTS operations and A/G radar modes.

c. STK4202 - Execute section low-level, VNAV target acquisition. Introduce VMTS operations and A/G radar modes.

d. STK4203 - Execute section PGM strike route. Practice VMTS operations and A/G radar modes.

3. Special Syllabus Requirements. None.

4. Discuss Items. As required.

5. Block MIF

CTS REF	MANEUVER	STK4203
1	General Knowledge/Procedures	4+
3	Mission Planning	4+
4	Briefing	4+
5	NATOPS Procedures	4+
6	Ground Operations	4+
7	Crew Resource Management	4+
8	Headwork/Situational Awareness	4+
10	In-flight Planning/Area Orientation	4+
11	Strike Flight Procedures	4+
18	Flight Instruction/Detect and Correct Student Errors	4+
22	Debrief	4+

Blk	Media	Title	Events	Hrs	H/X
STK43	T-45C	NFO Strike Check Ride	1	1.2	1.2

1. Prerequisite. STK4203.

2. Syllabus Notes

a. IUT will occupy the aft cockpit of the lead aircraft.

b. Execute section low-level strike route. Flight will be flown in section and lead a dedicated wingman (not an SNFO event). Demonstrate proficiency in VMTS operations and A/G radar modes.

3. Special Syllabus Requirements. None.

4. Discuss Items. None.

5. Block MIF

CTS REF	MANEUVER	STK4390
1	General Knowledge/Procedures	4+
3	Mission Planning	4+
4	Briefing	4+
5	NATOPS Procedures	4+
6	Ground Operations	4+
7	Crew Resource Management	4+
8	Headwork/Situational Awareness	4+
10	In-flight Planning/Area Orientation	4+
11	Strike Flight Procedures	4+
18	Flight Instruction/Detect and Correct Student Errors	4+
22	Debrief	4+

Blk	Media	Title	Events	Hrs	H/X
CAS30	2F205A	Pilot CAS Simulator Training	1	1.5	1.5

1. Prerequisite. CAS1002 (CAS Crew Coordination Stan).

2. Syllabus Notes

a. The IUT will occupy the OFT during CAS3001; event instructed by INFO. CSI will operate the OFT, but will not attend brief or debrief.

b. Execute high-, medium-, and low-threat CAS. Procedures shall include Key-Hole and CP/IP procedures, PGM, pop, and roll-in deliveries, nine-line procedures, and visual talk-on procedures.

3. Special Syllabus Requirements. None.

4. Discuss Items. As required.

5. Block MIF

CTS REF	MANEUVER	CAS3001
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
4	Briefing	4+
5	NATOPS Procedures	4+
7	Crew Resource Management	4+
8	Headwork/Situational Awareness	4+
9	Basic Airwork	4+
12	CAS Flight Procedures	4+
18	Flight Instruction/Detect and Correct Student Errors	4+
19	Coverage of Check Items	4+
22	Debrief	4+

Blk	Media	Title	Events	Hrs	H/X
CAS40	T-45C	Pilot CAS Training	4	4.8	1.2

1. Prerequisite. CAS3001.

2. Syllabus Notes

a. The IUT will occupy the front cockpit and fly as Dash 2 during CAS4001-4.

b. These events will be flown with a minimum of three planes, mixed with SNFO events. The FAC(A) will fly as "Dash Last."

c. The SI will assume the role of the student NFO and the IUT will assess performance during CAS4001-4.

d. CAS4001 - execute medium-threat CAS procedures.

e. CAS4002 - execute high-threat CAS procedures.

f. CAS4003 - execute PGM CAS procedures.

g. CAS4004 - execute CAS scenario which shall include real-world dynamics that shift various CAS threat requirements and tactics.

3. Special Syllabus Requirements. None.

4. Discuss Items. As required.

5. Block MIF

CTS REF	MANEUVER	CAS4004
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
4	Briefing	4+
5	NATOPS Procedures	4+
7	Crew Resource Management	4+
8	Headwork/Situational Awareness	4+
9	Basic Airwork	4+
12	CAS Flight Procedures	4+
18	Flight Instruction/Detect and Correct Student Errors	4+
19	Coverage of Check Items	4+
22	Debrief	4+

Blk	Media	Title	Events	Hrs	H/X
CAS41	T-45C	Pilot CAS Check Ride	1	1.2	1.2

1. Prerequisite. CAS4004.

2. Syllabus Notes

a. The IUT will occupy the front cockpit during CAS4190 and fly as Dash-2.

b. This event will be flown with a minimum of three planes, mixed with SNFO events. The FAC(A) will fly as "Dash Last."

c. The SI will assume the role of the student NFO and the IUT will assess performance during CAS4190.

d. Execute CAS Scenario which shall include real-world dynamics that shift various CAS threat requirements and tactics.

3. Special Syllabus Requirements. None.

4. Discuss Items. As required.

5. Block MIF

CTS REF	MANEUVER	CAS4190
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
4	Briefing	4+
5	NATOPS Procedures	4+
7	Crew Resource Management	4+
8	Headwork/Situational Awareness	4+
9	Basic Airwork	4+
12	CAS Flight Procedures	4+
18	Flight Instruction/Detect and Correct Student Errors	4+
19	Coverage of Check Items	4+
22	Debrief	4+

Blk	Media	Title	Events	Hrs	H/X
CAS31	2F205A	NFO CAS	Execute/1	1.5	1.5
		Simulator Training	Observe/3	6.0	2.0
			Instruct/4	8.0	2.0

1. Prerequisite. CAS1004 (CAS Crew Coordination Stan (NFO)).

2. Syllabus Notes

a. The IUT will occupy the OFT aft seat during CAS3101; events instructed by INFO. CSI will operate the OFT, but will not attend brief or debrief.

b. The IUT will complete events as follows:

IUT Event	IUT Role	Corresponding SNFO Event	Description
CAS3101	Execute	N/A	N/A
CAS3102	Observe	CAS3001	Medium-Threat CAS
CAS3103	Instruct	CAS3001	Medium-Threat CAS
CAS3104	Observe	CAS3002	High-Threat CAS
CAS3105	Instruct	CAS3002	High-Threat CAS
CAS3106	Observe	CAS3003	PGM CAS
CAS3107	Instruct	CAS3003	PGM CAS
CAS3108	Instruct	CAS3004	CAS Scenario

c. INFO shall complete IUT gradesheet for all events. For those events where IUT acts as the instructor, the IUT shall complete the majority of the SNFO gradesheet, which shall then be edited as needed, submitted, and signed by the INFO.

d. An IUT may not instruct an XX90 event.

3. Special Syllabus Requirements. None.

4. Discuss Items. As required.

5. Block MIF

CTS REF	MANEUVER	CAS3108
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
4	Briefing	4+
5	NATOPS Procedures	4+
7	Crew Resource Management	4+
8	Headwork/Situational Awareness	4+
12	CAS Flight Procedures	4+
18	Flight Instruction/Detect and Correct Student Errors	4+
19	Coverage of Check Items	4+
20	ATJ Review	4+
21	Grading	4+
22	Debrief	4+

Blk	Media	Title	Events	Hrs	H/X
CAS32	2F205A	NFO CAS Check	Instruct/1	2.0	2.0

1. Prerequisite. CAS3108.

2. Syllabus Notes

a. Instruct any SNFO CAS simulator event, except XX90; event observed by qualified INFO.

b. INFO shall complete IUT gradesheet for the event. The IUT should complete the majority of the SNFO gradesheet, which shall then be edited, submitted and signed by the INFO.

3. Special Syllabus Requirements. None.

4. Discuss Items. As required.

5. Block MIF

CTS REF	MANEUVER	CAS3290
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
4	Briefing	4+
5	NATOPS Procedures	4+
7	Crew Resource Management	4+
8	Headwork/Situational Awareness	4+
12	CAS Flight Procedures	4+
18	Flight Instruction/Detect and Correct Student Errors	4+
19	Coverage of Check Items	4+
20	ATJ Review	4+
21	Grading	4+
22	Debrief	4+

Blk	Media	Title	Events	Hrs	H/X
CAS42	T-45C	NFO CAS Training	2	2.4	1.2

1. Prerequisite. CAS3290.
2. Syllabus Notes
 - a. IUT will occupy the aft cockpit.
 - b. These events will be flown with a minimum of three planes, mixed with SNFO events. The FAC(A) will fly as "Dash Last."
 - c. CAS4201 - Execute medium threat CAS and division procedures.
 - d. CAS4202 - Execute high threat CAS and division procedures.
3. Special Syllabus Requirements. None.
4. Discuss Items. None.
5. Block MIF

CTS REF	MANEUVER	CAS4202
1	General Knowledge/Procedures	4+
3	Mission Planning	4+
4	Briefing	4+
5	NATOPS Procedures	4+
6	Ground Operations	4+
7	Crew Resource Management	4+
8	Headwork/Situational Awareness	4+
10	In-flight Planning/Area Orientation	4+
12	CAS Flight Procedures	4+
18	Flight Instruction/Detect and Correct Student Errors	4+
22	Debrief	4+

Blk	Media	Title	Events	Hrs	H/X
CAS43	T-45C	NFO CAS Check Ride	1	1.2	1.2

1. Prerequisite. CAS4202.
2. Syllabus Notes
 - a. IUT will occupy the aft cockpit.
 - b. These events will be flown with a minimum of three planes, mixed with SNFO events. The FAC(A) will fly as "Dash Last."
 - c. Execute variable-threat CAS with PGM and division procedures.
3. Special Syllabus Requirements. None.
4. Discuss Items. None.
5. Block MIF

CTS REF	MANEUVER	CAS4390
1	General Knowledge/Procedures	4+
3	Mission Planning	4+
4	Briefing	4+
5	NATOPS Procedures	4+
6	Ground Operations	4+
7	Crew Resource Management	4+
8	Headwork/Situational Awareness	4+
10	In-flight Planning/Area Orientation	4+
12	CAS Flight Procedures	4+
18	Flight Instruction/Detect and Correct Student Errors	4+
22	Debrief	4+

Blk	Media	Title	Events	Hrs	H/X
BFM30	2F205A	Pilot BFM Simulator Training	Observe/1	2.0	2.0

1. Prerequisite. BFM1004.
2. Syllabus Notes
 - a. BFM3001 and BFM4001 may be completed in any order following completion of BFM1004.
 - b. Observe SNFO BFM3001 event.
3. Special Syllabus Requirements. None.
4. Discuss Items. As required.
5. Block MIF

CTS REF	MANEUVER	BFM3001
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
4	Briefing	4+
5	NATOPS Procedures	4+
7	Crew Resource Management	4+
8	Headwork/Situational Awareness	4+
9	Basic Airwork	4+
13	BFM Flight Procedures	4+
18	Flight Instruction/Detect and Correct Student Errors	4+
19	Coverage of Check Items	4+
22	Debrief	4+

Blk	Media	Title	Events	Hrs	H/X
BFM40	T-45C	Pilot BFM Training	Execute/6	7.2	1.2

1. Prerequisite. BFM1004 (BFM Crew Coordination Stan).
2. Syllabus Notes
 - a. BFM3001 and BFM4001 may be completed in any order following completion of BFM1004.
 - b. The IUT will occupy the front cockpit and fly as Dash 2 during BFM4001-5.
 - c. The IUT will occupy the front cockpit and lead BFM4006.
 - d. The SI will assume the role of the student NFO and perform all student functions during BFM4001-3 and BFM4006.
 - e. The SI will observe IUT BFM maneuvers during BFM4004 and BFM4005.
3. Special Syllabus Requirements. None.
4. Discuss Items. As required.

5. Block MIF

CTS REF	MANEUVER	BFM4006
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
4	Briefing	4+
5	NATOPS Procedures	4+
7	Crew Resource Management	4+
8	Headwork/Situational Awareness	4+
9	Basic Airwork	4+
13	BFM Flight Procedures	4+
18	Flight Instruction/Detect and Correct Student Errors	4+
19	Coverage of Check Items	4+
22	Debrief	4+

Blk	Media	Title	Events	Hrs	H/X
BFM41	T-45C	Pilot BFM Check Ride	1	1.2	1.2

1. Prerequisite. BFM4006.

2. Syllabus Notes

a. The IUT will occupy the front cockpit and lead BFM4190.

b. The SI will assume the role of the student NFO and perform all student functions. The IUT will assess performance during BFM4190.

c. BFM3001 is not a prerequisite for BFM4190; however, the IUT must complete BFM3001 prior to receiving a BFM qualification.

3. Special Syllabus Requirements. None.

4. Discuss Items. As required.

5. Block MIF

CTS REF	MANEUVER	BFM4190
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
4	Briefing	4+
5	NATOPS Procedures	4+
7	Crew Resource Management	4+
8	Headwork/Situational Awareness	4+
9	Basic Airwork	4+
13	BFM Flight Procedures	4+
18	Flight Instruction/Detect and Correct Student Errors	4+
19	Coverage of Check Items	4+
22	Debrief	4+

Blk	Media	Title	Events	Hrs	H/X
AWI30	2F205A	Pilot AWI Simulator Training	3	4.5	1.5

1. Prerequisites

a. AWI1010 (Intercept Progression IV) prior to AWI3001-2 in order.

b. AWI1011 (Introduction to SRA) prior to AWI3003.

2. Syllabus Notes

a. The IUT will occupy the OFT and will utilize stick, throttle, and RHC HOTAS during AWI3001-3.

b. AWI3001 - Introduce air-to-air radar modes and functionality. Execute stern conversion intercepts to include radar procedures, timeline adherence, game plan execution, VID procedures, weapons restraint, and weapons employment.

c. AWI3002 - Execute 1 V 1 intercepts to include 1 V 1 radar procedures, timeline adherence, radar defense, forced merge recognition, high-aspect merge, postmerge maneuvers, 1 V 1 VID procedures, weapons restraint, and weapons employment.

d. AWI3003 - Execute section radar attack intercepts against a single bandit group (2 V 2) to include 2 V 2 radar procedures, timeline adherence, radar missile defense, forced merge recognition, section high-aspect merge, postmerge maneuvers, 2 V 2 VID procedures, weapons restraint, and weapons employment.

3. Special Syllabus Requirements. None.

4. Discuss Items. As required.

5. Block MIF

CTS REF	MANEUVER	AWI3003
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
4	Briefing	4+
5	NATOPS Procedures	4+
7	Crew Resource Management	4+
8	Headwork/Situational Awareness	4+
9	Basic Airwork	4+
14	AWI Flight Procedures	4+
18	Flight Instruction/Detect and Correct Student Errors	4+
19	Coverage of Check Items	4+
22	Debrief	4+

Blk	Media	Title	Events	Hrs	H/X
AWI40	T-45C	Pilot AWI Training	11	13.2	1.2

1. Prerequisites

- a. AWI3002 prior to AWI4001-4 in order.
- b. AWI3003 prior to AWI4005-6 in order.
- c. AWI1012 (Introduction to 2 V X) prior to AWI4007-9 in order.
- d. AWI1013 (Self-Escort Strike Route) prior to AWI4010-11 in order.

2. Syllabus Notes

- a. The IUT will occupy the front cockpit and fly as Dash 2 in all section flights with a dedicated lead (not an SNFO event).
- b. The SI will assume the role of the student NFO and the IUT will assess performance during AWI4001-11.
- c. AWI4001 and AWI4002 - Introduce VMTS air-to-air setup, modes, and functionality. Introduce instructor page utilization and execution. Execute stern conversion intercepts to include radar procedures, timeline adherence, game plan execution, VID procedures, weapons restraint, and weapons employment.
- d. This event will utilize the IGS. The INFO operating the IGS will attend coordination brief with aircrew one hour prior to takeoff and will attend the debrief.
- e. AWI4003 and AWI4004 - Execute VMTS air-to-air setup. Utilize VMTS modes and functionality. Execute 1 V 1 intercepts to include 1 V 1 radar procedures, timeline adherence, radar missile defense, forced merge recognition, high-aspect merge, postmerge maneuvers, 1 V 1 VID procedures, weapons restraint, and weapons employment.
- f. AWI4005 and AWI4006 - Execute section radar attack intercepts against a single bandit group (2 V 2) to include 2 V 2 radar procedures, timeline adherence, radar missile defense, forced merge recognition, section high-aspect merge,

postmerge maneuvers, 2 V 2 VID procedures, weapons restraint, and weapons employment.

g. AWI4007, AWI4008, and AWI4009 - Execute section radar attack intercepts against multiple bandit groups (2 V X) to include 2 V X radar procedures, timeline adherence, radar missile defense, flow decisions, abort decisions and execution, forced merge recognition, section high-aspect merge, postmerge maneuvers, group-to-group flow, weapons restraint, and weapons employment.

h. AWI4010 and AWI4011 - Execute section self-escort strike to include strike route procedures, 2 V X radar procedures, timeline adherence, radar missile defense, target flow, target acquisition, target attack, off target flow and targeting, forced merge recognition, section high-aspect merge, postmerge maneuvers, weapons restraint, and weapons employment.

3. Special Syllabus Requirements. None.

4. Discuss Items. As required.

5. Block MIF

CTS REF	MANEUVER	AWI4011
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
4	Briefing	4+
5	NATOPS Procedures	4+
7	Crew Resource Management	4+
8	Headwork/Situational Awareness	4+
9	Basic Airwork	4+
14	AWI Flight Procedures	4+
18	Flight Instruction/Detect and Correct Student Errors	4+
19	Coverage of Check Items	4+
22	Debrief	4+

Blk	Media	Title	Events	Hrs	H/X
AWI41	T-45C	Pilot AWI Check Ride	1	1.2	1.2

1. Prerequisite. AWI4011.

2. Syllabus Notes

a. The IUT will occupy the front cockpit and fly as Dash 2 with a dedicated lead (not an SNFO event). The SI will assume the role of the student NFO and the IUT will assess performance during AWI4190.

b. This event will utilize the IGS. The INFO operating the IGS will attend coordination brief with aircrew one hour prior to takeoff and will attend the debrief.

c. AWI4190 - execute section self-escort strike to include strike route procedures, 2 V X radar procedures, timeline adherence, radar missile defense, target flow, target acquisition, target attack, off target flow and targeting, forced merge recognition, section high-aspect merge, postmerge maneuvers, weapons restraint, and weapons employment.

3. Special Syllabus Requirements. None.

4. Discuss Items. As required.

5. Block MIF

CTS REF	MANEUVER	AWI4190
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
4	Briefing	4+
5	NATOPS Procedures	4+
7	Crew Resource Management	4+
8	Headwork/Situational Awareness	4+
9	Basic Airwork	4+
14	AWI Flight Procedures	4+
18	Flight Instruction/Detect and Correct Student Errors	4+
19	Coverage of Check Items	4+
22	Debrief	4+

Blk	Media	Title	Events	Hrs	H/X
AWI31	2F205A	NFO AWI	Execute/6	9.0	1.5
		Simulator Training	Observe/5	10.0	2.0
			Instruct/5	10.0	2.0

1. Prerequisites

- a. AWI1023 (Intercept Progression IV (NFO)) prior to AWI3101.
- b. AWI1024 (Introduction to SRA (NFO)) prior to AWI3108.
- c. AWI1025 (Introduction to 2 V X (NFO)) prior to AWI3111.
- d. AWI1026 (Self-Escort Strike Route (NFO)) prior to AWI3114.

2. Syllabus Notes

- a. The IUT will occupy the OFT and will utilize stick, throttle, and RHC HOTAS during execute events (AWI3101-2); execute events instructed by INFO. CSI will operate the OFT, but will not attend the brief or debrief.
- b. The IUT will occupy the OFT and will utilize RHC HOTAS during execute events (AWI3105, AWI3108, AWI3111, and AWI3114); execute events instructed by INFO. CSI will operate the OFT, but will not attend the brief or debrief.
- c. The IUT will complete events as follows:

IUT Event	IUT Role	Corresponding SNFO Event	Description
AWI3101	Execute	N/A	See following notes.
AWI3102	Execute	N/A	N/A
AWI3103	Observe	AWI3002-5	Stern Conversion intercepts
AWI3104	Instruct	AWI3002-5	Stern Conversion intercepts
AWI3105	Execute	N/A	See following notes.
AWI3106	Observe	AWI3006 or AWI3007	1 V 1 Intercepts
AWI3107	Instruct	AWI3006 or AWI3007	1 V 1 Intercepts
AWI3108	Execute	N/A	See following notes.
AWI3109	Observe	AWI3101-3	SRA

AWI3110	Instruct	AWI3101-3	SRA
AWI3111	Execute	N/A	See following notes.
AWI3112	Observe	AWI3104-6	2 V X
AWI3113	Instruct	AWI3104-6	2 V X
AWI3114	Execute	N/A	See following notes.
AWI3115	Observe	AWI3201 or AWI3202	Self-Escort Strike
AWI3116	Instruct	AWI3201 or AWI3202	Self-Escort Strike

d. AWI3101 - Introduce air-to-air radar modes and functionality. Execute stern conversion intercepts to include radar procedures, timeline adherence, game plan execution, VID procedures, weapons restraint, and weapons employment.

e. AWI3102 - Execute stern conversion intercepts to include radar procedures, timeline adherence, game plan execution, VID procedures, weapons restraint, and weapons employment.

f. AWI3103 - Observe forward quarter to stern conversion intercepts event.

g. AWI3104 - Instruct forward quarter to stern conversion intercepts event.

h. AWI3105 - Execute 1 V 1 intercepts to include 1 V 1 radar procedures, timeline adherence, radar defense, forced merge recognition, high-aspect merge, postmerge maneuvers, 1 V 1 VID procedures, weapons restraint, and weapons employment.

i. AWI3106 - Observe forward quarter to high-aspect merge 1 V 1 intercepts event.

j. AWI3107 - Instruct forward quarter to high-aspect merge 1 V 1 intercepts event.

k. AWI3108 - Execute section radar attack intercepts against a single bandit group (2 V 2) to include 2 V 2 radar procedures, timeline adherence, radar missile defense, forced merge recognition, section high-aspect merge, postmerge maneuvers, 2 V 2 VID procedures, weapons restraint, and weapons employment.

l. AWI3109 - Observe section A/A tactics (2 V 2) event.

- m. AWI3110 - Instruct section A/A tactics (2 V 2) event.
 - n. AWI3111 - Execute section radar attack intercepts against multiple bandit groups (2 V X), to include 2 V X radar procedures, timeline adherence, radar missile defense, flow decisions, abort decisions and execution, forced merge recognition, section high-aspect merge, postmerge maneuvers, group-to-group flow, weapons restraint, and weapons employment.
 - o. AWI3112 - Observe section A/A tactics (2 V X) event.
 - p. AWI3113 - Instruct section A/A tactics (2 V X) event.
 - q. AWI3114 - Execute section self-escort strike to include strike route procedures, 2 V X radar procedures, timeline adherence, radar missile defense, target flow, target acquisition, target attack, off target flow and targeting, forced merge recognition, section high-aspect merge, postmerge maneuvers, weapons restraint, and weapons employment.
 - r. AWI3115 - Observe self-escort strike event.
 - s. AWI3116 - Instruct self-escort strike event.
 - t. INFO shall complete IUT gradesheet for all events. For those events where IUT acts as the instructor, the IUT shall complete the majority of the SNFO gradesheet, which shall then be edited as needed, submitted, and signed by the INFO.
 - u. An IUT may not instruct an XX90 event.
3. Special Syllabus Requirements. None.
4. Discuss Items. As required.

5. Block MIF

CTS REF	MANEUVER	AWI3116
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
4	Briefing	4+
5	NATOPS Procedures	4+
7	Crew Resource Management	4+
8	Headwork/Situational Awareness	4+
14	AWI Flight Procedures	4+
18	Flight Instruction/Detect and Correct Student Errors	4+
19	Coverage of Check Items	4+
20	ATJ Review	4+
21	Grading	4+
22	Debrief	4+

Blk	Media	Title	Events	Hrs	H/X
AWI32	2F205A	NFO AWI Check	Instruct/1	2.0	2.0

1. Prerequisites

- a. AWI3116.
- b. AWI1108 (AWI IGS Training VIII).

2. Syllabus Notes

a. Instruct any SNFO AWI Simulator event, except XX90; observed by qualified INFO.

b. INFO shall complete IUT gradesheet for the event. The IUT should complete the majority of the SNFO gradesheet, which shall then be edited, submitted, and signed by the INFO.

3. Special Syllabus Requirements. None.

4. Discuss Items. As required.

5. Block MIF

CTS REF	MANEUVER	AWI3290
1	General Knowledge/Procedures	4+
2	Emergency Procedures	4+
4	Briefing	4+
5	NATOPS Procedures	4+
7	Crew Resource Management	4+
8	Headwork/Situational Awareness	4+
14	AWI Flight Procedures	4+
18	Flight Instruction/Detect and Correct Student Errors	4+
19	Coverage of Check Items	4+
20	ATJ Review	4+
21	Grading	4+
22	Debrief	4+

Blk	Media	Title	Events	Hrs	H/X
AWI42	T-45C	NFO AWI Training	3	3.6	1.2

1. Prerequisite. AWI3290.

2. Syllabus Notes

a. IUT will occupy the aft cockpit; these events are flown in section with a dedicated lead or wingman (not an SNFO event).

b. Events will utilize the IGS. The INFO operating the IGS will attend coordination brief with aircrew one hour prior to takeoff and attend the debrief.

c. AWI4201 - Execute 1 V 1 intercepts. Introduce VMTS operation and A/A radar.

d. AWI4202 - Execute SRA intercepts versus a single group. Introduce VMTS operation and A/A radar.

e. AWI4203 - Execute 2 V X intercepts versus multiple groups. Practice VMTS operation and A/A radar.

3. Special Syllabus Requirements. None.

4. Discuss Items. None.

5. Block MIF

CTS REF	MANEUVER	AWI4203
1	General Knowledge/Procedures	4+
3	Mission Planning	4+
4	Briefing	4+
5	NATOPS Procedures	4+
6	Ground Operations	4+
7	Crew Resource Management	4+
8	Headwork/Situational Awareness	4+
10	In-flight Planning/Area Orientation	4+
14	AWI Flight Procedures	4+
18	Flight Instruction/Detect and Correct Student Errors	4+
22	Debrief	4+

Blk	Media	Title	Events	Hrs	H/X
AWI43	T-45C	NFO AWI Check Ride	1	1.2	1.2

1. Prerequisite. AWI4203.
2. Syllabus Notes
 - a. IUT will occupy the aft cockpit.
 - b. This event will utilize the IGS. The INFO operating the IGS will attend coordination brief with aircrew one hour prior to takeoff and attend the debrief.
 - c. Execute section self-escort strike. Demonstrate proficiency in VMTS operation and A/A radar.
3. Special Syllabus Requirements. None.
4. Discuss Items. None.
5. Block MIF

CTS REF	MANEUVER	AWI4390
1	General Knowledge/Procedures	4+
3	Mission Planning	4+
4	Briefing	4+
5	NATOPS Procedures	4+
6	Ground Operations	4+
7	Crew Resource Management	4+
8	Headwork/Situational Awareness	4+
10	In-flight Planning/Area Orientation	4+
14	AWI Flight Procedures	4+
18	Flight Instruction/Detect and Correct Student Errors	4+
22	Debrief	4+

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Chapter IX

Course Training Standards (CTS)

1. Purpose. These standards outline the tasks and proficiency required of IUTs during Advanced training. This training prepares an officer to perform the duties of a T-45C Instructor.

2. IUT Duties and Responsibilities

- a. Plan or manage the overall mission as appropriate.
- b. Ensure the aircraft is preflighted, inspected, and equipped for the assigned mission.
- c. Help the student operate the aircraft or aircraft systems, as applicable, to accomplish the mission using sound judgment and airmanship.

3. General Standards

- a. Achieve training standards to be qualified as a T-45C Instructor.
- b. Unless otherwise specified, use **Basic Airwork/Basic Airwork Recognition (BAW/BAR)** standards for all items with altitude, airspeed, or heading parameters.
- c. "Standard" equates to **good** (G/4).
- d. Momentary deviations outside CTS that do not compromise flight safety are acceptable if subsequent corrections are timely.
- e. Procedural knowledge and application must comply with applicable directives and allow efficient mission accomplishment. If individual tasks require pre-mission planning, the standards from **Mission Planning** apply.

4. Execution. The MIF regulates IUT progression to meet required standards prior to phase completion. SIs shall evaluate IUT performance against standards.

5. Job Tasks. Specific performance and standards required are described as follows:

BEHAVIOR STATEMENT	STANDARDS
GRADED ITEM	
<ul style="list-style-type: none"> • A brief description of the behavior, required action, and/or conditions. 	<ul style="list-style-type: none"> • The specific standards for the action. May be read as "The Instructor Under Training.."

6. Course Training Standards

BEHAVIOR STATEMENT	STANDARDS
1. General Knowledge/Procedures	
<ul style="list-style-type: none"> • Maintains working knowledge of all appropriate flight training instructions and directives. • Has the specific knowledge required for safe, efficient flight operations and mission effectiveness. 	<ul style="list-style-type: none"> • Recites, discusses, and/or performs all applicable items essential to the aircraft and mission. • Accurately understands and applies appropriate items as described in NATOPS, FTI, FAR/AIM, FLIP, and NOTAMs.
2. Emergency Procedures/Limitations	
<ul style="list-style-type: none"> • Maintains in-depth knowledge of NATOPS emergency procedures and appropriate directives. • Specifically applies NATOPS procedures to resolve an aircraft emergency whether airborne or on the ground. 	<ul style="list-style-type: none"> • Correctly analyzes situation and provides the proper course of action. • Performs/recites critical action steps from memory, with 100 percent accuracy. • Uses correct checklist when appropriate and conditions permit. • Handles the emergency IAW NATOPS and FTI. • Correctly prioritizes tasks to include aviation, navigation, communication, and checklists. • Verbalizes and recognizes performance limitations of the aircraft.

BEHAVIOR STATEMENT	STANDARDS
3. Mission Planning	
<ul style="list-style-type: none"> ● Perform mission planning to include takeoff, climb, enroute, mission specific tasks, descent, approach, and landing data. ● Plan alternate course of action. ● Prepare Flight Log/DD 175. 	<ul style="list-style-type: none"> ● Uses required directives and forms. ● Plans mission to meet mission requirements. ● Acquires appropriate flight planning/weather data for the event. ● Completes all forms correctly. ● Complies with all directives. ● Clearly defines the mission overview and mission goals.
4. Briefing	
<ul style="list-style-type: none"> ● Review student mission brief, objectives, and conduct. 	<ul style="list-style-type: none"> ● Provides meaningful discussion of administration and mission procedures. ● Contributes experience to briefing items. ● Ensures applicable procedures are understood by student. <p><u>ANAV/FAM</u></p> <ul style="list-style-type: none"> ● Ensures student covers all pertinent information in the briefing guide. ● Ensures student finishes brief to allow enough time for aircraft preflight.
5. NATOPS Procedures	
<ul style="list-style-type: none"> ● Demonstrate competence in the safe and effective operation of the T-45C aircraft IAW NATOPS procedures (normal and emergency), precautions, and practices. 	<ul style="list-style-type: none"> ● Safely and effectively executes all required procedures from preflight to postflight IAW T-45C NATOPS Chapters 6-7, 9, 11-18 (Flight Preparation, Shore-based Procedures, Special Procedures, Flight Characteristics and Emergency Procedures).

BEHAVIOR STATEMENT	STANDARDS
6. Ground Operations	
<ul style="list-style-type: none"> ● Prepare aircraft for flight. ● Perform thorough preflight of the aircraft. ● Provide backup for aircrew from parking area to runway. 	<ul style="list-style-type: none"> ● Complies with NATOPS and command directives. ● Correctly and expeditiously performs appropriate ground checklists. ● Correctly inspects all critical aircraft external components. ● Maintains adequate lookout for ground traffic and other hazards.
7. Crew Resource Management (CRM)/Crew Coordination	
<ul style="list-style-type: none"> ● Use available crew and cockpit resources to minimize workload and enhance situational awareness. ● Effective communication of mission essential information, and interaction between crew members. 	<ul style="list-style-type: none"> ● Effectively utilizes seven key skills of CRM throughout all portions of flight training. ● Delegates cockpit tasks as appropriate. ● Uses appropriate interaction between crewmembers with regard to normal aircraft procedures. ● Uses SA building communication.
8. Headwork/Situational Awareness	
<ul style="list-style-type: none"> ● Comply with the FTI and NATOPS while maintaining situational awareness sufficient for flight safety and mission completion. 	<ul style="list-style-type: none"> ● Understands instructions, demonstrations, and explanations. ● Foresees and avoids possible difficulties. ● Remains alert and spatially oriented.
9. Basic Airwork (BAW)/Basic Airwork Recognition (BAR)	
<ul style="list-style-type: none"> ● Establish and maintain or monitor, as required, desired altitude, airspeed, and heading during flight. 	<ul style="list-style-type: none"> ● Achieves or makes recommendations to: <ul style="list-style-type: none"> ▶ Maintain aircraft within 100 feet, 10 KIAS, 10° of heading. ▶ Appropriately use power, attitude, and trim. ▶ Level off within 100 feet of desired altitude. ▶ Accomplish within ±10 seconds of correct time as applicable.

BEHAVIOR STATEMENT	STANDARDS
10. In-Flight Planning/Area Orientation	
<ul style="list-style-type: none"> ● Plan and execute a sequence of maneuvers or actions, as required. ● Understand current and required position. 	<ul style="list-style-type: none"> ● Efficiently sequences maneuvers. ● Adjusts mission profile for external factors (weather, traffic, etc.). ● Maintains positional awareness using ground references, navigational aids, VFR charts, or FLIP publications.
11. Strike Flight Procedures	
<ul style="list-style-type: none"> ● Demonstrate sound procedures for strike flight instruction. 	<ul style="list-style-type: none"> ● Executes all strike flight procedures and maneuvers IAW FTI and squadron directives with zero discrepancies. ● Adheres to A/G training rules with no violations.
12. CAS Flight Procedures	
<ul style="list-style-type: none"> ● Demonstrate sound procedures for CAS flight instruction. 	<ul style="list-style-type: none"> ● Executes all CAS flight procedures and maneuvers IAW FTI and squadron directives with zero discrepancies. ● Adheres to A/G training rules with no violations.
13. BFM Flight Procedures	
<ul style="list-style-type: none"> ● Demonstrate sound procedures for BFM flight instruction. 	<ul style="list-style-type: none"> ● Executes all BFM flight procedures and maneuvers IAW FTI and squadron directives with zero discrepancies. ● Adheres to BFM training rules with no violations.
14. AWI Flight Procedures	
<ul style="list-style-type: none"> ● Demonstrate sound procedures for AWI flight instruction. 	<ul style="list-style-type: none"> ● Executes all AWI flight procedures and maneuvers IAW FTI and squadron directives with zero discrepancies. ● Adheres to A/A training rules with no violations.

BEHAVIOR STATEMENT	STANDARDS
15. Stalls/OCF	
<ul style="list-style-type: none"> • Demonstrate proper stall/OCF recovery procedures IAW NATOPS and squadron directives. 	<ul style="list-style-type: none"> • Safely and effectively recovers from stalls and departures IAW T-45C NATOPS procedures (Ch. 11, Flight Characteristics) and squadron directives.
16. Course Rules/INAV	
<ul style="list-style-type: none"> • Provide safe navigation using a filed IFR flight plan. • Return to home field using local course rules. 	<ul style="list-style-type: none"> • Complies with all IFR clearances IAW FAR and OPNAVINST 3710.7U. • Complies with the FTI and local course rules. • Navigation - proceeds or directs under own navigation to initial point (± 1 NM and 3 radials).
17. Landing	
<ul style="list-style-type: none"> • Demonstrate the ability to land safely. 	<ul style="list-style-type: none"> • Safely lands the T-45C aircraft in all normal and emergency configurations IAW NATOPS and squadron directives.
18. Flight Instruction/Detect and Correct Student Errors	
<ul style="list-style-type: none"> • Maintain vigilance in order to recognize student errors and correct them effectively. • Help student improve individual performance. 	<ul style="list-style-type: none"> • Detects when student has deviated from CTS. • Using FTI procedures, correctly verbalizes the student deviation and provides instruction to correct the student's ability to perform the maneuver IAW the CTS.
19. Coverage of Check Items	
<ul style="list-style-type: none"> • Ensure appropriate MIFs are addressed and performed. 	<ul style="list-style-type: none"> • Discusses and addresses all required MIF items.
20. Aviation Training Jacket (ATJ) Review	
<ul style="list-style-type: none"> • Perform thorough review of student training jacket, including previous simulator and flight grades. 	<ul style="list-style-type: none"> • Demonstrates knowledge of syllabus and flight requirements (understands required MIF items to be performed). • Recognizes overall student trends.

BEHAVIOR STATEMENT	STANDARDS
21. Grading	
<ul style="list-style-type: none">● Objective measure of performance for specific graded items for the event.	<ul style="list-style-type: none">● Grades IAW established CTS.
22. Debrief	
<ul style="list-style-type: none">● Conduct thorough review of overall mission conduct and effectiveness.	<ul style="list-style-type: none">● Reviews overall strengths and weaknesses exhibited by the student for the flight.● Provides feedback to improve techniques and make subsequent events better.

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Chapter X

Master Materials List

Individually Issued Materials

<u>NOMENCLATURE</u>	<u>IDENTIFICATION</u>	<u>QTY PER STUDENT</u>
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Flight Training Instructions

1. CV Procedures	CNATRA P-816	1
2. Advanced Strike Procedures	CNATRA P-819A	1
3. Radar Theory	CNATRA P-820	1
4. Contact	CNATRA P-821	1
5. Advanced Intercept Procedures	CNATRA P-825	1

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